THE

GENESEE FARMER:

A MONTHLY JOURNAL DEVOTED TO

AGRICULTURE & HORTICULTURE,

DOMESTIC AND RURAL ECONOMY.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

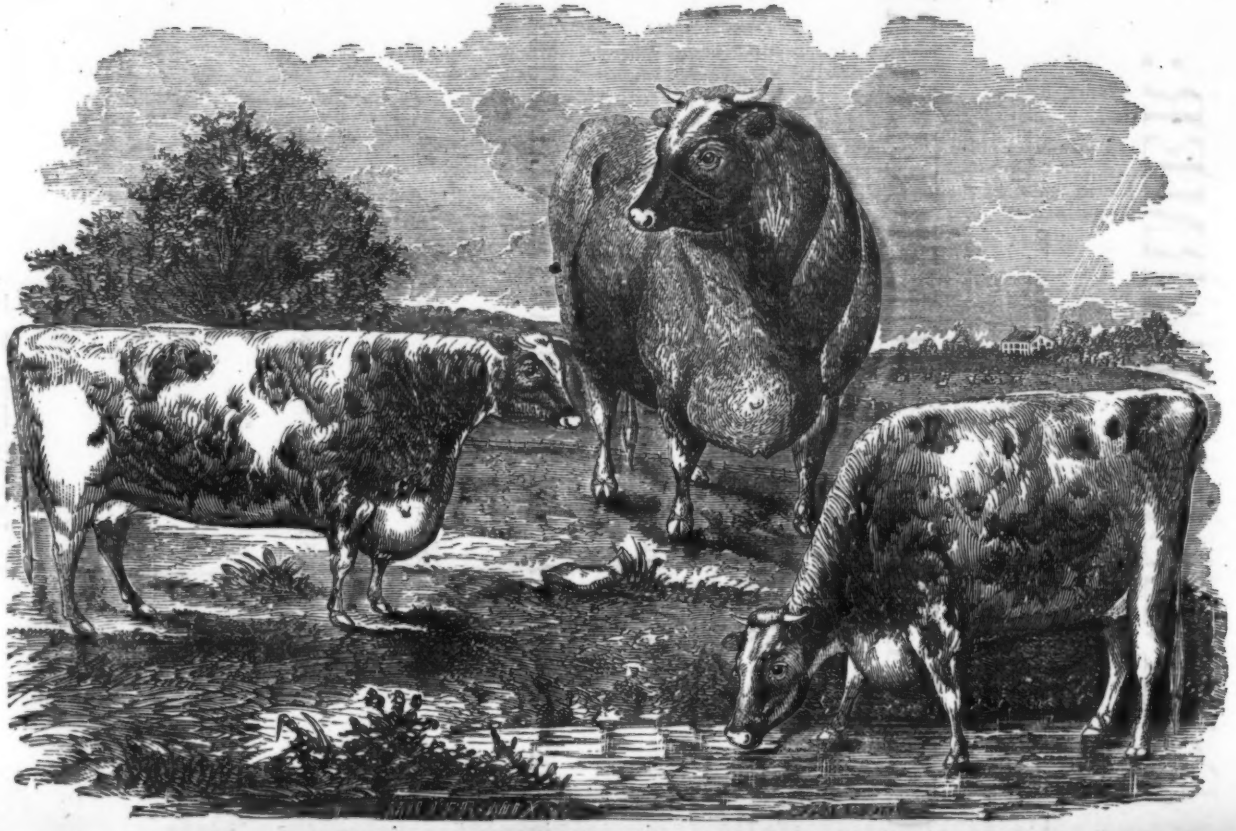
DOMESTIC ANIMALS, FRUIT AND ORNAMENTAL TREES,

IMPLEMENTS, SHRUBS, FLOWERS, &c.

ESTABLISHED IN 1831.

VOLUME XXII, SECOND SERIES.—1861.

ROCHESTER, N. Y.:
JOSEPH HARRIS, PUBLISHER AND PROPRIETOR,
TALMAN BLOCK, BUFFALO STREET.
1861.



GROUP OF IMPROVED SHORT-HORNS.

GROUP OF IMPROVED LIGHT-HORNS.

THE
Genesee Farmer.
THE PRACTICAL AND SCIENTIFIC FARMERS OWN PAPER.

VOL. XXII, SECOND SERIES. ROCHESTER, N. Y., JANUARY, 1861. No. 1.

ON THE MANAGEMENT OF BARN-YARD MANURE.

WHATEVER system is adopted in the management of manure, the three principal objects should be, (1) to preserve all the liquids, (2) to prevent leaching, and (3) to avoid too rapid fermentation.

In cold weather, fermentation proceeds so slowly that we need apprehend little loss from this cause. Our principal danger is from the soluble and more valuable portions of the manure being leached out by heavy rains in the fall and spring, and, in some sections, during the winter months. We suffer more from this than from all other causes combined.

In New England, where straw is scarce, manure cellars under the barns and stables are common. The liquid and solid excrements are dropped through trap-doors into the cellar beneath. It is necessary in this case to provide dry peat or muck to absorb the liquid and to retain the ammonia and other gases, which would otherwise escape and penetrate through the floors to the upper portions of the barn, to the injury of the animals and the detriment of the hay and other fodder stored above. When properly managed, however, there can be no doubt that a good manure cellar affords the means of preserving manure with little or no loss. It is always under cover, and there need be no loss from leaching.

In this section, however, and throughout the Western States and Upper Canada, where straw for litter is usually abundant, we think manure cellars in most cases are unnecessary. By spouting all the buildings and sheds, the manure heap can be so managed that it will absorb nearly or quite all the rain that falls upon it, as well as the liquids from the cattle and horse stables. The main point is to mix the manures of the different animals. Horse and sheep dung ferment rapidly, while that from the hog and cow is cold and sluggish. Instead, therefore, of letting the horse manure lie in a heap by the stable door, it should be mixed with the hog or cow manure. Again, the litter or straw should be evenly distributed. It often happens that there is a straw stack in the barn-yard, and immediately around the stack there is a large mound of wet, refuse straw, which of itself will hardly ferment at all, and which, if it did, would make manure of little value. This should be spread about the yard, thereby adding to the comfort of the animals and the value of the manure heap.

We could wish that every barn-yard had a tank in which the liquids could be preserved when in excess, and from which they could be pumped back when the manure heap became too dry. We are satisfied that such a tank would *pay* for itself in a year on an average sized farm. Into this tank we would throw a few bushels of plaster (sulphate of lime). This, *in solution*, would fix all the ammonia, not only in the liquid itself, but also in the manure heap when it was pumped on to it.

To carry out the method we have advocated, i is necessary to have a good wheelbarrow. Without it we have found that the short portions of the manure are left near the stable doors, while the more littery portions are drawn or thrown to a greater distance. A few planks laid on the heap would greatly lessen the labor of wheeling.

When manure is thrown into a loose heap, it is apt to ferment rapidly, and in some instances to "fire fang." When this is the case, there can be no doubt that there is a great loss of ammonia. To avoid this, we need compression and more moisture. If we have a tank, the latter is easily supplied, and when the manures are distributed evenly over the yard, the cattle will tread it down sufficiently solid to prevent all injurious fermentation.

A few store hogs should always be allowed access to the barn-yard. They will pick up much that would otherwise be wasted, and they will materially assist in mixing the manure, though they necessitate a little more care in levelling the heap.

It should never be forgotten that the value of the manure depends on the food consumed by the animals. However well we manage the manure heap the manure will be of comparatively little value if the animals are fed on nothing but straw. We must have rich food before we can have rich manure.

THE MECHANICAL CONDITION OF THE SOIL FAVORABLE FOR THE GROWTH OF SEED.

The last *Journal of the Royal Agricultural Society* contains a Prize Essay on this subject, from Professor Tanner, of Queen's College, Birmingham. We will try to give some of his leading ideas.

Seed consists of two distinct parts—the germ, which is the true seed; and the nourishment stored for the growth of the seed. The position of the germ is indicated by a scar or cicatrix upon the skin, but it is a minute body and forms but a small proportion of the entire seed. It is always placed adjacent to the bulky portion of the seed, consisting of starch mixed with gluten and albuminous matter, and the whole is enclosed in a coat of dense vegetable matter.

The growth of the seed consists in the development of the germ into a perfect plant, and is known as *germination*. Supposing the conditions of growth to be favorable, the first preliminary is a softening of the coat of the seed, by which means water gains an entrance, and having pervaded the mass causes it to swell freely. When the water reaches the germ of the seed, the gluten or albuminous matter near to it undergoes a chemical change, and we have a very important and powerful body formed which is known as diastase. Upon the diastase thus formed devolves the important office of preparing food for the growth of the germ; for the bulk of the seed, although abundant in quantity and exactly suitable in its constituent elements, is not ready for use until it has become soluble in water, and thus been made capable of entering into the circulation of the germ. This is accomplished by means of the diastase, by the agency of which the necessary supplies are prepared, so long as the store of food in the seed is needed. An immediate extension of the cellular matter accompanies the entrance of the food into circulation, and we have the external evidence of life by the sprouting of the seed. In whatever position the seed may be placed the radicles at once strike perpendicularly down into the soil, and the tender rootlets fix themselves there with but little delay. As soon as this is effected, the gemmule grows in the opposite direction and becomes developed into the stem and leaves of the plant.

The conditions which control the growth of seeds are, the presence of air, moisture and warmth; and, to produce healthy germination, all are required in definite proportions.

In regard to the preparation of land for wheat, Prof. Tanner thinks that on heavy clay soils the bare fallow is best. He is not in favor of making the land too fine. It should be left "tolerably rough." These clods of soil, he says, "will afford good shelter in the winter months, and by return of spring will have mellowed down into a nice mould, valuable to the young plant when the important operation of spring rolling is carried out."

"The great advantages of clover-ley for wheat consists in the firm furrow which can be turned over when it is plowed, to promote which object our best plows effect the inversion of the furrow without materially breaking it. Upon clay soils, and even upon strong loamy soils, a careful plowing of the clover-ley is found to produce a sufficiently firm seed bed for the wheat, especially when it is allowed to lie for sometime to get settled, so that the seed may be sown upon a stale furrow. The use of a share or skincoulter with the plow, as it assists in burying the turf more completely, is generally desirable, otherwise the clover is apt to spring up between the furrow-slices, which is very objectionable.

"As the land gets lighter in its character, the well known land-presser comes in as a valuable help. These implements are generally made with two pressers, which, following immediately after two plows, very completely compress the two furrow-slices turned over, and give the land the required solidity.

"As the soils get lighter there is less objection to working them when wet; in some cases, indeed, this becomes necessary in order to give them the required firmness. It is not often in the south of England that a wet time is selected for sowing; but, when rain comes on after the work has commenced, I have known it to be continued until the soil was quite muddy, and yet no disadvantage has resulted; on the contrary, the plant has proved firmer on the portion sown wet than upon any other part. This, which may be safe upon one soil, will often be very injurious upon another *apparently* of the same character. Soils which have a sufficient portion of sand or grit intermixed with them are thus preserved from that adhesion of the soil which would take place in stronger land, so that, in their case, the germination of the seed is but little delayed, whilst the treading of the land when wet gives it a greater degree of firmness, and this is favorable to the stability of the plant.

"The rules which regulate the quantity of seed wheat to be sown to the acre are simply these:—the early sowings require less seed, whilst for the later sowings the quantity should be gradually increased; and, again, as the soil and climate become more favorable to the growth of wheat, less seed becomes necessary.

"The depth most desirable for the germination of seed wheat depends upon the closeness or adhesive character of the soil. The seed should be placed in that position which will secure to it such a supply of moisture, warmth and air, as will most rapidly promote healthy germination. It is clear that these conditions can not be secured in soils of a different texture at one uniform depth.

"Upon loamy soils of medium character we find the depth of about 1 inch superior to any other, but as the soil becomes lighter and more sandy in

its nature, the depth may be advantageously increased to 1½ or 2 inches. In a dry season, a less depth than 1 inch can seldom be looked upon as sufficient to secure to the seed a necessary degree of moisture; and a greater depth than two inches is not desirable, because the plant has then generally to raise itself in the soil so that its roots may commence their duties within a moderate distance of the surface. The mode of plowing in seed-wheat with a 3½ or 4-inch furrow is clearly wrong, for the wheat will not establish its roots in the soil at this depth, and the germination must necessarily be delayed in consequence of this increased depth. If I make any difference in the depth of seed upon soils of this character, I let the early sown wheat be deposited rather deeper than that which may be sown later, and my reason is because the early sowings have plenty of time for making their growth, and, therefore, full depth insures a firmer root, whereas with late sowings this delay can not be allowed, for the young wheat will then gain more by appearing more quickly above the ground; but even these variations in depth should not range more than half an inch either way. The lighter the soil becomes, the more important it is to sow at a considerable depth, as this favors the stability of the plant, and the stronger the land, the greater the necessity of keeping near to the surface.

"The advantages of the drill are very great in the opportunity afforded for hoeing the land, but when the system of horse or hand hoeing is not practised much of the benefit of drilling is lost. After the seed has been sown it should be covered by the use of the harrow, but the less the land is worked the better, and especially upon strong soils. The roughness of the surface will be rather desirable than otherwise, for protecting the wheat-plant during the winter months.

"For sowing spring wheat the soil need not be brought to as firm a condition as for the autumn sowing, but the difference is only one of degree, and such as enables us at once to see the cause which renders greater solidity essential for autumn sowing.

"When wheat is sown upon land which is not sufficiently firm, the plant fails in the severe weather of winter; on the other hand, when the seed has a more solid seed-bed in which to establish itself, the roots are enabled to become more fibrous in form and vigorous in action, and in this manner they obtain a secure hold upon the soil from which the winter frosts can not dislodge them. The great necessity then for a firm seed-bed for autumn wheat is to insure the stability of the plant during the winter; consequently there need be no surprise that in spring we are less anxious about our land-pressers.

BARLEY.—The soils in which barley flourishes most luxuriantly are free-working loams, and it is not uncommon for such land to be distinguished as barley-land. This preference arises from the natural habit of growth in the barley, which requires a considerable freedom of action for the development of that bunch of fibers of which its root consists. In the preparation of land for its growth this has to be remembered; for, if the character of the soil is not naturally of the description required, we are compelled to adopt measures for rendering it as much so as possible. The firmness which was so necessary for wheat is objectionable here, and the more completely it is destroyed the better.*

"Upon the *lightest* class of barley soils there is great danger of the manure being washed through the soil; on such lands, therefore, the use of the plow is avoided at this time (spring), as the inversion of the soil would favor the loss of manure, and the aid of a cultivator suffices to loosen the soil for the seed-bed. Other soils are brought into a sufficiently loose and free condition for sowing, by means of a single plowing, but by far the larger breadth of our barley soils requires further preparation. I do not know any kind of grain which suffers so much in its quality as barley, from being sown in an unfavorable seed-bed.

"The best qualities of barley, as well as the largest crops, are produced from soils very free and open in their character, and these indicate the condition to which we should endeavor to bring any soil upon which this crop is to be sown. To promote the same freedom in the soil, the seed should always be sown when the land is dry; for as we have seen in the preparation of wheat, that a wet seed time was conducive to that increased firmness of the soil which was then our object, so now, when we wish to avoid this effect upon the land, we should in every way avoid the cause.

"The use of the drill is very generally preferred for sowing barley to every other mode. The depth for sowing the seed is not subject to the same variations as in the case of wheat; one inch may be considered sufficient in all soils to secure its healthy germination."

OATS.—The natural energy of the root of the oat renders this crop admirably adapted for sowing on old sod-land. Prof. T. recommends plowing up an old sod in the fall and leaving it till seed time in the spring. During this interval frosts are almost certain to have crumbled the surface and produced a nice light mould for the seed; such land will then present the most desirable seed-bed for oats—a soil well charged with vegetable matter, firm beneath, yet easy of penetration for the rooting of the plant, with a surface light and free in its character for the germination of the seed. This firmness of land for the root must be distinguished from the hardness with which wheat will contend after it has once made a fair growth.

He recommends leaving the land rather rough after sowing, and says, "I have known the greater portion of a crop of oats blown off the ground, simply from the field having been rolled instead of being left rough from the harrow. Upon such land the seed must always be buried deeply, say two inches, for this gives the plant a better opportunity for securing itself to the spot."

"PEAS.—The pea requires a free and loose soil for its successful growth, and it is upon soils of

* That is to say, within four or five inches of the surface. According to my experience any loosening of the subsoil by double plowing on light land, in a dry climate, is prejudicial to the barley crop.—*Ed. Journal.*

this character that it is chiefly cultivated. The land can scarcely be rendered too free for their growth, and hence soils which do not need to be plowed a second time are improved by the use of the cultivator in the spring, unless the manure is thus brought to the surface, in which case a drag will be preferable. The seed-bed best suited for peas may therefore be described as a deeply-worked and well-cultivated soil, fine in texture, loose and free; the seed should therefore be sown when it is dry, so as not to prejudice the condition of the land.

"The depth at which the seed should be sown will vary from two to three inches, according to the time of sowing and the nature of the land; the earliest sowings and the lightest lands having the seed deposited at the greater depth. Drilling is, beyond question, the best mode of depositing the seed so as to allow of cultivation between the rows during growth. The plan of double rows, 9 or 10 inches apart, with an interval of 18 or 20 inches between them, is advisable because of the greater facility for cleaning the land, and the greater support which the peas gain from the neighboring row. Three bushels of seed to the acre is the usual quantity sown.

"GRASS AND CLOVER SEEDS.—These seeds are small in size, and proportionately weak in their powers of growth; for which reason they require the greater care to secure their healthy germination. A depth and condition of soil which may be suitable for larger and more vigorous seeds is really destructive to their growth. Experiments prove that seeds of this class should be laid as near the surface as possible, so that the covering of the soil shall be of the thinnest character. A slight covering, however, is desirable for the purpose of retaining moisture; for seed placed upon the surface is naturally subject to the drying influence of the air, which, after germination has commenced, may so check the growth as to prove destructive to its existence."

WHAT SPRING CROP SHALL WE SEED WITH?—In reply to this question, the *Prairie Farmer* says: "It is the experience of most prairie farmers with whom we have conversed on this subject, that *oats* is the best crop to seed with—for the reason that the foliage shadows and protects the plants from the sun. The earlier in the spring the oats and seed are sown, the better."

We had supposed that, in the majority of cases, *oats* were the worst crop to seed with—and that for the very reason assigned by the *Prairie Farmer* for their being the best. The dense foliage *smothers* the young seed plants. Perhaps we are mistaken on this point, and should be glad of the experience of our readers.

A LARGE YIELD OF POTATOES.—J. B. WHITAKER, of Delaware Co., Iowa, writes us that he bought of JOHN REED, last spring, half a bushel of potatoes to plant, and dug from them in the fall twenty-six and a half bushels.

EXTRACTS FROM THE TRANSACTIONS OF THE N. Y. STATE AG. SOCIETY FOR 1859.

BARLEY FLY.—The barley crop in Onondaga Co., in 1849, was 440,298 bushels—136,340 bushels more than was raised in any other county in the State. In 1854, the production had fallen off to 371,785 bushels, and it has, says Mr. GEDDES, "been growing less and less every year since. Formerly, we expected forty bushels per acre; now, we can not rely on more than twenty." This falling off is principally due to the depredations of an insect which attacks the crop just before the heads appear, laying its eggs in the straw; the stalk is entirely destroyed, or, if any grain is matured, it is small and imperfect.

STOCK PER ACRE.—GEO. GEDDES, in his Report on the County of Onondaga, says "The general calculation for grazing districts, such as the town of Fabius, is an acre of meadow and two acres of pasture to support each horse, and each head of neat cattle or eight sheep, on the farm. In fact, Fabius has 1 12-100 acres of meadow for each animal, and 1 91-100 acre of pasture; of both pasture and meadow, 3.03 acres are required for each animal."

WHEAT ON CLOVER SOD AT ONE PLOWING.—GEO. GEDDES, of Onondaga, says "Clover sod, handsomely turned over in August, is very commonly sown to wheat. Occasionally a piece of land that has become weedy, is still summer fallowed." We have seen this method practised here, but as a general rule, not with very satisfactory results. Breaking up the sod in July is more common; and then sow without again plowing, simply keeping the surface clean and making it mellow by the use of the two-horse cultivator, etc. We should be glad of the experience of our readers on this point. In England, wheat is sown on a clover sod, turned up fresh immediately before sowing.

TIMOTHY VS. CLOVER.—Mr. GEDDES, of Onondaga, says: "*We sell our herd's grass and feed our clover.* The reasons are, the city buyers will pay more per ton for the herd's grass than they will for the clover, and we long ago come to think the clover worth quite as much as the herd's grass to feed. The objection that has been made to our making the clover plant take the position in our agriculture that the root crop occupies in that of the English farmer is, that in time we shall destroy our lands by this constant cropping without the application of foreign manures. But this system of manuring with clover and gypsum only, has been carried on for sixty years, apparently without any injurious effects."

THE VALUE OF THE CLOVER PLANT.—"The agriculture of Onondaga County," says GEDDES, "is based on the Clover plant (*Trifolium pratense*). It is used for pasture, for hay, and for manure. Strike this plant out of existence, and a revolution would follow, that would make it necessary for us to learn everything anew in regard to cultivating our lands. What their value would be without clover, we will not attempt to conjecture."

IRRIGATING GRASS LAND.—C. L. KIERSTED, of Kingston, says: "I had about four acres of ground, mostly rock, with a soil averaging from six to two inches deep; and many places the rock was bare, laying on a slope, or sloping both ways, with a small stream of water running from a swamp through the lowest part of the lot; the land was in grass; produced about half a ton to the acre. I put upon it manure—it did no good; the grass when wet would grow, but would soon dry up and amount to mostly nothing. I took a team with a strong plow, plowed two furrows in different places so as to take the water from the stream over the highest land, and let the water out whenever I desired it; attended to it twice a week, letting off and on in different parts of the lot. The result was about three tons of hay to the acre, cut early, and a large after growth. The next year took the water off; the result was less than half a crop. The year following let the water on again as before, with the same good results.

"I also had a piece of land—a coarse gravel; nothing but Johnswort grew upon it. There was a large spring directly above the lot, though the water running, as is mostly the case from springs, in a channel directly across the lot. I went to work as before stated, and drew the water upon the land; the result was, red top and herd's grass came in and grew so that it lodged.

"Last year I mowed from one acre of ground 8,580 lbs. of hay, timothy and white clover, made mostly by irrigation."

THE WHEAT MIDGE.—Dr. FITCH, the entomologist of the Society, speaking of the wheat midge, says: "I can not but think that its career will be analagous to that of its predecessor, the Hessian fly, and that it will therefore in time become so fully naturalized and mastered by its parasitic destroyers, that it will cease to be the formidable evil which it now is."

RATS.—A correspondent of the *Country Gentleman* says he has found, after twenty years experiment in various ways to destroy rats, that there is nothing equal to a few cats. "Chain the dogs and let the cats loose."

EXPERIMENTS ON INDIAN CORN.

W. P. OTTLEY, of Phelps, Ontario Co., N. Y., has made some experiments with various artificial manure, in accordance with the plan suggested by the New York State Agricultural Society.

The soil on which the experiment was made is a gravelly loam, thoroughly underdrained. It was a two-year old clover sod. The corn was planted May 31, and appeared above ground June 7. The following table shows the manures used, and the number of bushels of ears per acre:

	Bush. ears per acre.
No. 1—No manure	114
2—400 lbs. Peruvian Guano	118
3—400 lbs. American Guano	114
4—400 lbs. Superphosphate of Lime	116
5—4 barrels of Poudrette	112
6—400 lbs. Tafue	116
7—400 lbs. Gypsum (sown on the hill when up)	130
8—400 lbs. Unleached Ashes	124
9—16 tons Barn-yard Manure (plowed in)	180
10—400 lbs. Peruvian Guano, 400 lbs. Superphosphate of Lime, 400 lbs. Unleached Ashes, and 200 lbs. of Gypsum	154
11—No manure	116
12—16 loads of Rotted Manure (plowed in)	188
13—20 loads Barn-yard Manure, and 400 lbs. *each* of Gypsum and Leached Ashes, with one-fifth part of Hen Manure and one-tenth of Salt	158

The guanos, the superphosphate, the poudrette and tafue, did little or no good. The 400 lbs. of gypsum (costing $1.00,) is the only directly profitable manure used. We get 16 bushels of ears for one dollar.

The land itself was evidently in good condition; 114 bushels of ears per acre, which was obtained without any manure, is a very fair crop.

RECEIPT FOR CURING MEAT.

The *Germantown Telegraph* gives the following receipt for curing meat, and says that "after using it for about twenty years, and comparing the hams so cured with others cured by a dozen different processes, we are more than ever convinced of its superiority." It is this:

"To one gallon of water take 1½ lbs. of salt, ½ lb. of sugar, ½ oz. of saltpetre, and ½ oz. of potash. In this ratio, the pickle to be increased to any quantity desired. Let these be boiled together, until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when *cold*, pour it over your beef or pork, to remain the usual time, say four or five weeks. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpeter, which removes all the surface blood, etc., leaving the meat fresh and clean.

"Several of our friends have omitted the boiling of the pickle, and found it to answer equally as well. It will not, however, answer *quite* so well. By boiling the pickle, it is *purified*—for the amount of dirt which is thrown off by the operation, from the salt and sugar, would surprise any one not acquainted with the fact."

PLOWING IN GRASS SEED.

The *New York Tribune* says, "Some farmers of our acquaintance have tried the experiment of plowing in grass seeds, and are convinced that it is the best of all ways to put it in—that it can better stand drought, etc."

This is a very different result to all the heretofore recorded experiments we have seen. In Lawson's *Treatise on the Grasses*, and in a Prize Essay by J. D. Stirling, of Scotland, the results of experiments instituted on purpose to ascertain the best depth for sowing grass and clover seeds are given, in which it is clearly proved that seeds should be covered as lightly as possible. Several of our common seeds did not "braid" when covered from one to two inches deep, and the greatest number of seeds germinated when sown from 0 to ½ inch deep. Some did best when covered from ½ to ¾ inch deep; very few required to be covered ¾ inch deep.

To *plow in* the seeds, therefore, is a novel recommendation, and should be adopted with extreme caution. It is true that the experiments to which we have alluded simply show that the greatest number of seeds germinate when sown on the surface, or covered lightly. It may be that the seeds which *do* come up, may give us stronger plants which can resist the drouth better. Still, we should hesitate some time before we plowed in any considerable quantity of seeds. Let us have more facts.

Dry Food for Hogs.—A correspondent of the *Country Gentleman* says: "Many hogs are kept comparatively poor by the high dilution of their food. They take in so much water that there is not room for a good supply of nutriment. Hence the reason that those farmers who carefully feed *undiluted* sour milk to their hogs, have so much finer animals than those who give them *slop*. The hog has not room for much water; and if food which contains much is fed to him, it makes him big-bellied, but poor." Hogs, as well as all other animals, should be allowed all the water they will drink, but it should not be mixed with their food in excessive quantity—the hog should not be *obliged* to take more water than he wants in order to get the food he requires.

Seeds in Weeds.—A single plant of the common stinging nettle (*Urtica dipica*) produces 100,000 seeds in a season, feverfew, 125,000, and the foxglove (*digitalis purpurea*), 640,000. Who can wonder at the rapid spread of weeds.

Cultivation of Ruta Bagas in Canada.—The South Riding of Oxford (C.W.) Agricultural Society offered a prize of $20 for the best acre of Swedish turnips, and $10 for the second best. There were *twenty-one* competitors for these prizes! This fact alone shows that the cultivation of root crops is receiving much attention in Canada. We have received the Report of the Committee appointed to visit the crops entered for competition, which is very complete, and has evidently been prepared with care. We find that of the twenty-one different acres entered, the lowest yield was 664 bushels per acre. There were four crops over 800 bushels, three over 900, and four over 1,000. The first prize crop was 1,429 bushels per acre; the second prize crop, 1,256 bushels. The prize crop was cultivated as follows: Previous crop, peas; plowed in the fall with twenty loads of manure; cultivated once and rolled twice in the spring; seed sown June 10, in drills 24 inches apart.

American Hops in England.—A correspondent of the *London Mark Lane Express*, in alluding to the failure of hops the past season in England, and the consequent demand for foreign hops, says:

"It is in America where the crop is most abundant, and the probability is, the importations from that quarter will exceed the rest. But the question arises, when they come will they be generally used? We think not, so long as our yearlings keep about present prices; for the mischief caused by them in 1854 is not yet forgotten, and the samples now to hand of the new crop have the same objectionable flavor, and no doubt, if used, will lead to the same results. Opinions differ as to the cause—many thinking it indigenous to the land; others to the pine wood (generating an acid destructive to fermentation) with which they are cured; we are inclined to think it arises from the land: if from the mode of drying, that would have been remedied before now, so as to prevent complaints, as in '54."

Hard Crust formed in Plowing.—It is well known that when land has been plowed for many years at a uniform depth, a hard crust is formed at the bottom of the furrow. The *Country Gentleman* says: "We lately had occasion to inspect a piece of ground that had been plowed and was soon flooded by a creek, and all the loose or plowed soil washed completely away, leaving this under crust untouched, and showing every mark and scratch of the plow as it passed over. The crust had been made so compact by the whole weight of the plow and that of the turning sod superadded, that the flood made not the slightest impression upon it, although the soil was naturally quite uniform down to a depth of two or three feet."

RURAL CHINA.

The following extracts from a recent letter from the correspondent of the *London Times*, who accompanied the Allied Forces in their advance upon Pekin, will be read with interest:

For upward of six miles we passed through gardens, the produce of which supplied the garrison of the forts and the town of Taku. They were admirably cultivated. Little water-wheels furdished an easy means of irrigation, and the vegetables might have put a Battersea market garden to shame. Large Swede [*qu.*] turnips, excellent French beans, crisp radishes, lettuces, yams, and many other vegetables grew in great profusion. The fruit was magnificent. Trellised vines, whence the ripe luscious fruit hung in mellow clusters, reminded us of Italy. Peaches, water melons, apples—very like Newtown Pippins—and pears of every description, were abundant. For six miles "drooped the heavy-blossomed bower, hung the heavy-fruited tree."

For a mile and a half did the road wind through the streets of Ko-ku, no street exceeding eight feet in width. The open sewers were choked to repletion with offal of every description; what they were unable to contain lay scattered about the streets. The houses of mud and straw bore a strong family likeness to those of Sinho and Tangkow, and the peculiar, faint, sickly smell, so well known to all travelers in China, greeted our nostrils from every group we passed.

Four miles march brought us to another town, Kiang-kia-chwang, near which we determined to halt for the night. A large Acacia at the entrance of the village shaded a strip of green by the side of some water, and there we pitched our tent.

Leaving the town, we came on an extensive plain covered as far as the eye could reach with millet, 12 to 14 feet high. For six or seven miles we rode through this gigantic corn, now nearly ripe for the harvest. The millet answers a vast variety of purposes. Its head is ground into flour, and very good flour it makes, or distilled into shumshoo, the vilest and most deleterious of drinks. The leaves when green are eaten by the cattle; when dry they make excellent fodder. The stalks serve for fuel, for thatching, for partition walls, for fences, for mixing with mud for the walls of houses and for the embankments of the canals. It was the only grain we saw on the road. We were told that directly the the millet was cut at the end of this month, wheat is sown, which is reaped at the latter end of June. The wheat when cut is replaced by the millet.

We have not had one drop of rain in three weeks. The thermometer has risen to 98° in the shade at noon, and yesterday we were treated to an Indian "hot wind," but the nights are cool, and even cold. [This was in September.]

Forcing our way through unsavory Celestials, we find ourselves in a small square occupied by the "eel-pie" and "baked potato" men of the place. Your working man dines in the street, and this square is a favorite *al fresco restaurant*. Li, on our right, deals in meat pies. He has a small charcoal fire below his oven, and in a trice his *pâté* is compounded and cooked before the public. Ho, by his side, supplies vegetable diet, turnips, onions, pumpkins, yams, cut into small slices and served in the water wherein they are boiled. Here is a man with sweetstuff, pastry, and "tuck." There another with fruit—grapes, peaches, lotus fruit, water melons, apples, and pears.

Mr. Parkes heard that a committee of merchants had been appointed by Sang-ko-lin-sin to furnish supplies for the whole Chinese army in the north. He sought them out, and explained that, as their office had now become a sinecure, they must transfer their allegiance to the Allies. The committee made no demur, and a tariff of prices was soon arranged. They rated the Mexican dollar at 1,000 cash, which, at the present rate of exchange, gives 200 cash for 1s. The pound avoidupoise is equal to the Tein-sin catty, by which everything is sold. Bullocks are divided into three classes. The first weigh about 500 lbs., and cost 25 dollars per head; the second, weighing about 400 lbs., are fixed at 20 dollars; the third, about 300 lbs., are 15 dollars each. Beef and mutton are sold by retail, the first at 3d., the second at 4d. per lb. Tea is 1s. 2d., sugar 4d., and flour 2½d. per lb.; onions, turnips, and pumpkins, five cash per lb.; fowls 9d., and ducks 1s. 9d. each. The finest grapes may be had in abundance at 3d. per lb.; the largest peaches at 1d. each. Water melons—most refreshing of fruits, and large enough for a dozen—cost 5d. each. Ice in large blocks of 25 lbs., pure and clear as the finest Wenham Lake, is sold for 6d. a block. There is any quantity of fomge of every description—hay, millet stalk, green grass, paddy, peas, beans, and Indian corn. Coal costs ½d. and charcoal 1d. per lb. Coolies receive 1s per day per man. Supplies of every description are abundant and excellent. The mutton is fat and well-flavored, and no finer grapes and peaches are grown than those which come to Tein-tsin market. A favorite fruit with the Chinaman is the classic lotus, in shape like a small melon [what can this be?]; it is full of stoneless kernels, sweet and pleasant to the palate. Often and often have I eaten them without experiencing the dreamy sensation they are said to produce.

The banks of the canal are fringed with very large willows, weeping and upright. Ascending 10 miles, the aspect of the country changes. First come topes of large trees, then what may be really dignified by the name of a wood. We jump on shore and enjoy our tiffin *sub tegmine*. The timber is large and fine—walnut, willow, locust trees, and immense pear trees.

Yesterday the thermometer stood at 102° in the bell tents and under the awnings of the Granada.

Small Chests for Fattening Animals.—The *Homestead* says, "breeding, working or milch stock" should have large chests, but "every farmer," it says, "knows that the big chests take the most meal.. A narrow-chested hog will fatten much more readily, and be more quiet than one with a broad chest—and so it is with steers."

This may be all true. We have heard the same idea advanced before, but never saw any satisfactory proof of its correctness.

DOVES AND PIGEONS.

Doves and pigeons have been associated with earliest history, as the companions of man, and have borne the emblematical character of peace ever since the Deluge. The first was

> "The surer messenger,
> A dove sent forth once and again to spy
> Green tree or ground, whereon his foot may light.
> The second time returning, in his bill
> An olive leaf he brings, pacific sign."

The most modern remarkable instance occurred in 1849, when, on the occasion of Queen Victoria's visit to Dublin, as the procession passed under an arch on Eccles street, a dove was lowered from a window into the Royal carriage, which Her Majesty took gently in her hand and placed beside her, amid loud cheers from the vast multitude assembled at this point. It was an Irish mistake to offer a dove to such a visitor. A spinster Turtle might have pleased Elizabeth; a loving pair ought to have been presented to Victoria But in any way it is acceptable as a peace offering, if the token be but sincere.

PIGEONS NOT CAPABLE OF TRUE DOMESTICATION.

Here we have a wide field, from which only a few gleanings can be made in illustration of our subject. We give precedence to the pigeons of Great Britain.

The Stock Dove (*C. Oenas*).—"This makes a very elegant and pleasing aviary bird. Its plumage is rich, bluish gray being the prevalent hue; and the changing colors of the neck are more gem-like than those of the common pigeons. Taken from the nest when young, it is easily reared, and becomes familiar and *apparently* as much attached to home as the other sorts usually kept. But as the birds get older, a pining for the woods comes over them; they make excursions to the neighboring groves, returning less and less frequently to the place where they have been nurtured and are still supplied with food by man, till at last they are utterly fascinated by the delights of freedom, and become followers of Robin Hood and other forest-hunting outlaws. Not that they love man less, but that they love the woods more. If, therefore, they are to be detained in captivity, an aviary must be their prison."

The Ring Dove (*C. Palumbus*).—This is a much larger bird, of perhaps still more beautiful plumage. It is less docile and more difficult to rear. "The Ring dove," says an English writer, "is a very great ornament to our dark fir woods and cedars, and will frequently build in some beeches close to where the domestic birds are housed; of which, however, they never take the slightest notice."

Ring doves are irregularly migratory, sometimes appearing in large flocks, the numbers composing which seem incredible when estimated. They commit great havoc on the new sown grain and the buds of the young clover plant; they also eat great quantities of noxious weeds.

The Turtle Dove (*C. Turtur*)—Is a very pretty and very untrustworthy little creature, less known than the preceding. "When reared from the nest," says Rev. Mr. Dixon, "it becomes tame enough to be even an interesting cage-bird; but a pair thus educated and seemingly contented in a green-house, slipped out cunningly, and were never heard of again. Perhaps, by the time their flight was discovered, they had got half way to Africa; for the best part only of the year will suit them with us.

They adopt the family habits of drinking deeply at a draught, and tickling each other's heads. The coo might be mistaken for the croaking of a frog. When heard at a distance, it has a sort of burring, bubbling sound, and consists of two syllables or measures, the second being re-duplicated, and the whole accented like the words 'Ah! mamma!" The Turtle dove is much the smallest of our native *Columbia*. The plumage may be generally described as ashy brown; the spot on the side of the neck, and the white tips to the tail feathers are the most ornamental parts of it. In the spots on the neck trifling variations occur, which may be safely referred to age."

In our next, we propose to take a glance at Australia, to ascertain whether any of the numerous members of the pigeon family found on that vast island be, by any possibility attachable to our own family.

O. N. BEMENT.

Springside, N. Y.

FEEDING HOGS.

Eds. Gen. Farmer:—In looking over the back numbers of your valuable paper, I found several able articles on my favorite subject,—the raising of hogs—which *appear* to explain things clearly, and *seem* to make the raising of pork quite easy and profitable But, meeting with such bad success when pursuing the course of management described, I have come to the conclusion that there is something more I do not know which makes it so easy and remunerative.

Your correspondent, L. S., of Attica, writing for John Skaats, says he raises the cheapest pork, and has the best hogs; but in so doing he uses very little corn—sometimes none; giving only coarse feed, slops, etc.—which must make sloppy pork, according to my experience. I had occasion to kill a pig before he had been topped off with corn. It had been fed on boiled potatoes, apples, and a little corn meal. After dressing, we found it to be anything but A No. 1 pork. It was soft, and run all away in the pan while cooking.

The same writer says his friend's pigs, at ten months old, dress over four hundred lbs.—Byfield and Suffolk crossed. I am feeding four Suffolk shoats. They were dropped in April; fed on scalded bran until the fields were ready to stubble,

They were taken from there, put in a clean, warm pen, and given the feed described, viz: potatoes, apples, and meal scalded, until the first of November. Then I commenced feeding corn meal scalded. Now they are but small shoats, weighing one hundred and fifty lbs. I have fed all they would eat, and still there is a difference of two hundred and fifty lbs. which I can not account for. The neighbors laugh at the idea of feeding such young pigs. They say the pork will cost a shilling a pound, and the miller consoles us by saying that those pigs will eat their heads off.

By the side of these pigs, I have a two years old sow, which is fed on the same feed, and gains two lbs. for one on the shoat: which, the neighbors say, would convince any sensible man that it will not pay to feed young pigs.

B. C. SIMONDS, in his article, states that he feeds one-third barley and two-thirds corn, and potatoes for dinner. There must be some peculiarity in his feeding or his pigs. Mine will not eat potatoes when they are fed meal for breakfast and supper. They will fast till supper and get what they like best.

In fact, I agree with Mr. SIMONDS that it is no boy's business to understand the wants of hogs.

If you or some of your numerous correspondents will correct my errors in the management of hogs, you will ease the troubles of a

Genesee Co., N. Y., Nov., 1860. YOUNG FARMER.

SCIENCE IN AGRICULTURE.

EDS. GENESEE FARMER:—The vegetable as well as the animal creation possess life, and the life of the one, as well as that of the other, is sustained by *food;* and proper feeding is as necessary to the development, vigor and perfection of the one as the other. A hill of corn is brought to its full growth and maturity in like manner as a calf is made to become a full-grown ox—namely, by means of a sufficient quantity of appropriate food, each according as its nature requires. Hence the demand for science in agriculture. By selecting the earliest pods, and the largest beans in the pods for seed, we are enabled to raise much earlier and larger beans than we should if we were careless in the selection of the seed. The same holds true in regard to corn, wheat, and every variety of grain. By this means, then, and by the application of proper fertilizers as food to the plants, our harvests may be made much more abundant; the quality of the grain better, therefore more marketable, which will insure it a ready sale at the highest price. Hence, we say that by always selecting the largest and earliest kernels of grain for seed, as much improvement can be made in the *species* of grain, as is made in *breeds* of stock by proper care and attention in that direction.

Germination and growth of seeds will follow almost any treatment, in almost any soil; but to secure the harvest in its full maturity and perfection, the soil must be properly fertilized and prepared, the seed properly sown, and the plants properly cultivated until the time of harvest. Every farmer has noticed that some hills in his corn-field are much more productive than others; that some portions of the field yield much more abundantly than other portions. This may not be owing to any particular variation in the manner of cultivation; but, all things else being equal, it is occasioned by a difference in the soil, which furnishes the sustaining elements upon which the growth of the plants depend. There is no magic or magical operation connected with it—nothing but what every practical, intelligent farmer is able to comprehend; and nothing but what he can make practical, and cause the poorest or least production of his ground to yield equal to the richest or most productive. Neither can the individual who is thus successful attribute his success to *luck;* but he has attained the best results simply by adopting the best means. He properly prepares, properly seeds, and properly cultivates; and with a favorable season he invariably gathers into his garner a bountiful harvest—which richly remunerates him for the expenditure of his labor and pains.

Hence, the necessity of being familiar with the action of different fertilizers and stimulants; of possessing a knowledge of the wants of different crops; and of the nature of the soil we cultivate—by which means we are enabled to make a proper application of manures to the soil, and *feed our plants* scientifically, or according as their natures require. I. W. SANBORN.

Lyndon, Vt.

PUTRIDITY OF WELLS.

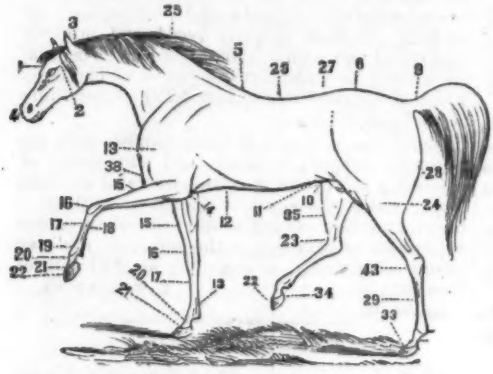
WE had a well of beautiful water, soft and cool, which all at once began to taste and smell as if the dead body of some animal were undergoing the decaying process in it. We gave it a thorough examination by the aid of the looking-glass, but could discover nothing. We descended to the water, but found no animal or vegetable matter in a putrid condition, and we were forced to the conclusion that the water was of itself putrid. Having reached this conclusion, we set our wits to work to devise a remedy; we remembered that only still water became thus affected, and that running water never became so. We thought the reason of the continued purity of the latter must be because of its continued agitation bringing all its particles continually in contact with the atmospheric air when it absorbed the oxygen to the necessary degree for reinvigoration of any property lost in sustaining its teeming, infinitesimal life. Upon this thought we based our action and remedy. We hired a man to work thoroughly the chain pump in the well, working with all his might for two hours, during which time he scarcely diminished the depth of the water. It was not longer than twenty-four hours before the water was as sweet and good as ever. We believe that it was the thorough agitation of the water by pumping, extending to the very bottom of the well, that effected the cure.

Again, we now have a cistern filled with rain water from the roof, which passes through a filter in reaching the cistern. A week ago the water in the cistern became putrid, tasting and smelling, we can't tell how bad. We remembered the experiment with the well, and the supposed reason of its cure; so we procured a long pole, and thoroughly stirred it up, agitating the water as much as possible, perhaps working at the job fifteen minutes. In twenty-four hours, the water was sweet and wholesome again.—*Homestead.*

MUSCULAR SYSTEM OF THE HORSE.

FIG. 1. The forehead. Few things more clearly indicate the blood of the horse than the forehead. In the blood-horse the forehead is broad and angular, gradually tapering from this point to the muzzle; while in the cart-house the face is large, and the forehead narrow in comparison with that of the blood-horse.

2. The eye-pit. By the depth of the eye-pit we are enabled to form some idea of the age of



POINTS OF THE HORSE

the horse. At the posterior part of the eye a considerable quantity of fatty substance is deposited, which enables it to revolve in its orbit with facility and freedom; in old age, and in diseases attended with general loss of condition, much of this fatty substance disappears, the eye becomes sunken, and the pit above the eye deepens. To obviate this appearance, some of the lower class of horse dealers puncture the skin, and, by means of a quill or tobacco pipe, blow into the orifice, and thus fill up the depression. This operation is called "puffing the glims," and may be easily detected by the application of pressure.

3. The poll.

4. The muzzle. The muzzle includes the lips, mouth and nostrils. The darker the color of the muzzle, the more is the horse esteemed. The lips should be thin and firm; in old and sluggish horses they are usually loose and pendulous.

5. The withers. The speed and action of the horse is intimately connected with the length and height of the withers, and such a development is absolutely necessary in the hunter, the hackney, and the farmer's horse; but in the heavy cart-horse this rule may be reversed, as the more bulky and weighty he is before, the more advantageously will his powers be applied.

6. The croup. The croup, which extends from the loins to the setting on of the tail, should be long, and but slightly rounded.

9. The hock. 10. The sheath.

11. The flank. The space contained between the ribs and haunches is called the flank; when too extensive, it is an indication of weakness. The flank is usually referred to as indicating the state of respiration; during fever and chronic diseases of the lungs, it rises and falls with a rapidity greater than under ordinary circumstances.

12. The girth or brisket.

13. The shoulder. A muscular and slanting shoulder is indispensable where action and speed are required; but an upright shoulder may be preferable for horses exclusively destined for the collar.

14. The elbow. Good judges prefer a deep elbow, as it is always connected with increased power of action.

15–15. The arms. It is universally agreed that the arms should be long, large, and muscular; if they are flat on the sides, and narrow in front as they approximate the shoulders, and deficient in muscle, they are radically defective, and the horse should of course be rejected.

16. The knee. The knee should be broad, as offering more space for the attachment of muscles; breadth in this part being an indication of strength.

17–29. The cannon, or shank. The cannon should appear wide when viewed laterally, and thin in front, as any addition besides bone and tendon, must arise from disease, or useless cellular matter.

18. Back sinews. The back sinews should be large, firm, and distinctly felt from the knee to the fetlock. If there be any thickness of cellular matter around them, it indicates previous injury, as a rupture of the ligamentous fibres; and as this thickening may limit the motion of the tendon, and predispose the part to a recurrence of lameness and inflammation, such a horse, although perfectly free from lameness at the time of examination, should be regarded with suspicion, and rejected as unsound.

19–30. The fetlock joint. It is usual to apply the term fetlock to the joint itself; and the space between the fetlock and the foot, the pastern; but, properly speaking, the fetlock, or *footlock*, is only the posterior part of the joint, from whence grows a lock or portion of hair.

20–31. The pasterns. The pasterns should neither be too long nor too short; if too short, they are non-elastic, and such horses are uneasy goers, and unsafe to ride; on the contrary, if they are too long, they are frequently too oblique, and although from their elasticity the motion of the horse may be pleasant to the rider, yet an increased length of limb is an indication of weakness.

21–32. The coffin joint.

22–33. The hoof.

23. The hock. The hock is the most important and complicated joint of the whole animal; like the knee, it should be hard and extended. An enlarged hock constitutes unsoundness.

24. The haunch.

25. The neck. A moderate and elegant curve of the neck adds greatly to the beauty of the horse. The neck is sometimes recurved and hollow; a horse with such a conformation is called ewe-necked.

26. The back. The comparative advantage of a long or short back depends entirely on the use for which the horse is intended. For general purposes (says Youatt), a horse with a short carcase is very properly preferred. He will possess health and strength—for horses of this kind are proverbially strong. He will have sufficient ease not to fatigue the rider, and speed for every ordinary purpose. Length of back will always be desirable when there is more than usual substance, and particularly when

the loins are wide, and the muscles of the loins large and swelling. The requisites—strength and speed—would then probably be united. The back should be depressed a little immediately behind the withers; and then continue in almost straight line to the loins. This is the form most consistent with beauty and strength. Some horses have a considerable hollow behind the withers; these are called *saddle-backed;* a few have the curve outward, and are called *roached-back*. This is a very serious defect, altogether incompatible with beauty, and materially diminishing the usefulness of the animal.

27. The loins can scarcely be too broad and muscular; the strength of the back and hinder extremities hinge upon this point. At the union of the back with the loins, a slight depression is sometimes observable; this must always be regarded as an indication of weakness.

28. The hind quarter.

35. The inside of the thigh or stifle.

38. The point of the shoulder.

SKELETON OF A HORSE.

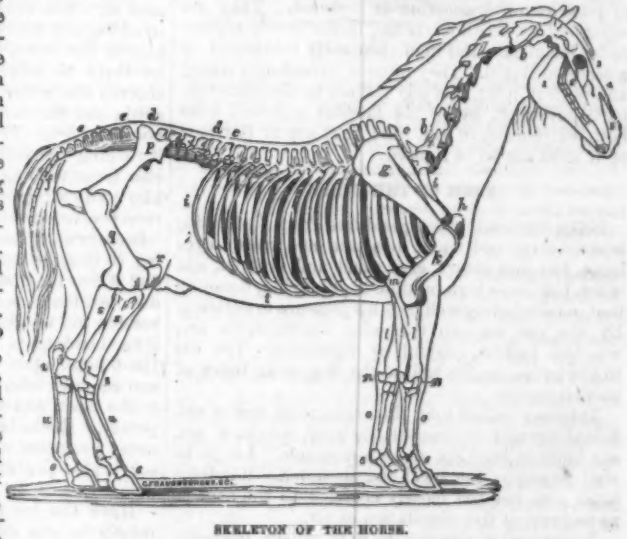
In the horse, as in all mammiferous animals, there is a long chain of distinct bones termed *vertebræ*, which, bound together by joint, cartilage and ligaments, constitute the spinal column. Each bone has a perforation through it, so that when the whole vertebræ are connected together, there is a continued canal passing along the interior. Besides the perforation forming this canal, each bone in the spinal column has two lateral projections, called transverse processes; one upward, termed the spinous process, the latter forming the sharp elevation of bones which commence with the withers, and extends along the back. The bones of the head, called *cranium*, are at the anterior termination of the spinal column. The bones of the face are in two divisions: the first, the lower jaw, is in one large piece; the second, the upper maxillary bones, and various other pieces, united together. In the sockets of the bones of both jaws are inserted the teeth. These consist of six incisor teeth in each jaw—that is, twelve incisors (cutters), commonly called nippers; of two canine teeth in each jaw, one on each side of the incisors, and four canine teeth or tusks in all; and next to these, and at some distance from them, are six molar or grinding teeth on both sides of each jaw, that is, twenty-four grinders in all. By adding the above numbers together, it will be seen that the horse has forty teeth for the proper mastication of his food.

In the above figure, 1 is the lower jaw, 2, 3, 4, 5, are the other bones of the face; *b b*, the bones of the neck, or cervical vertebræ; *c c*, the dorsal vertebræ; *e e*, the sacral vertebræ; and *f* is the caudal vertebræ, or bones of the tail. With the vertebral column are connected (1,) the ribs *i i i*, (2,) the scapula or shoulder-blade *g;* (3,) the bones of the pelvis *p*. With the shoulder-blade are connected the fore-limbs, consisting (1,) of the humerus or great bone of the shoulder *k;* (2,) the forearm *l m*, of which *m* is the elbow; (3,) of the bones of the carpus or knee *n;* (4,) of the cannon-bone or shank *o;* and (5,) of the bones of the pastern and foot (6). With the pelvis, *p*, are connected the bones of the posterior limbs, namely, (1,) the femur or great bone of the thigh *q;* (2,) the patella or stifle-bone *r;* (3,) the tibia or great bone of the leg *s;* (4,) the bones of the hock *t;* (5,) the cannon-bone *u;* (6,) the bones of the pastern and foot 6.

It is from the dorsal vertebræ, or bones of the back, that the ribs proceed, forming hoops which enclose the chest and a part of the abdomen.

The number of dorsal vertebræ, and consequently of the ribs, on each side, is eighteen, but sometimes one, or even two, more are developed. The ribs are mostly connected by cartilaginous bands with the scapula or breast-bone, of which the upper termination, *h*, appears in the figure. The breast-bone, flat and of a spongy consistence, is formed of several pieces united together, and is sometimes likened, from its form, to the keel of a ship.

The shoulder-blade or scapula *g*, of which there is one on each side of the chest, is a flat triangular



SKELETON OF THE HORSE.

bone, with its narrow end pointing obliquely downward. It is attached to the chest by intervening muscles, and strengthened in its position by other powerful muscles with which it is connected. Into a shallow cavity at the lower part of this bone, is inserted the humerus or bone of the shoulder. The humerus corresponds with the bone of the same name in man—that is, with the portion of the human arm which is between the elbow and shoulder, but is so covered with muscles in the horse, as to seem to form a part of the trunk. It is bent downward and backward in a direction opposite to that of the shoulder-blade, by which disposition the parts act like a spring to lessen the effects of those

terrible shocks which they sustain, when the animal, being raised from the ground, his weight is received upon his fore extremities. The head of the humerus working in a very shallow cavity in the shoulder-blade, the bone has great freedom of motion. Its lower extremity is fitted by a hinge-like joint into the next in order of the bones of the limb, namely, the bones of the fore-arm.

The bone of the fore-arm corresponds with that portion of the human arm which is between the elbow and the wrist, but the fore-arm in the human subject consists of two bones, termed, respectively, radius and ulna. In the horse, there were likewise two bones n the young state, but they became joined together; though the ulnar portion, as in the figure, is still to be distinguished projecting behind the upper part of the fore-arm, and receiving the name elbow in the horse as in the man. To the elbow are attached powerful muscles for extending the limb, and its size is one of the points looked to by jockeys, as indicative of what is termed action.

The part termed the knee in the horse corresponds with the wrist of the human arm, and is for this re son termed carpus. It is composed of seven, and sometimes of eight, small bones. These bones serve for the attachment of muscles, and for giving flexibility to the joint. By being many, the weight is divided among them, and thus the hazard of fracture or dislocation is lessened. They are separated by elastic cartilage, bound firmly together by ligaments, and kept constantly lubricated by a secreted liquid. They form an exceedingly strong and perfect joint, scarcely subject to dislocation of parts, although, being the farthest removed from both extremities of the limb, they are at the part of it most apt to be injured.

FORM OF THE HORSE.

HEAD moderately long and free from flesh, with nostrils large and wide; lips thin and close; eyes large, full and clear; ears small and pointed, and when the horse is in motion, kept playing, denoting that as he is feeling well he takes pleasure in noticing. By the ear we can tell what his thoughts are, whether vicious, playful, or frightened. The ear to the horse, as the tail to the dog, is an index of their thoughts.

The neck rather long than otherwise, and of sufficient strength to support the head, which, if not, the horse is very apt to be a stumbler. Let it be well joined to the head and shoulder. Windpipe large, and not too closely confined to the neck so as to prevent free circulation of air.

The shoulder slanting, so as to relieve the horse of the jar of his weight—this jar causing corns, splinters, etc. The slanting shoulder facilitates speed; for example, the comparison between an iron and rubber ball; if you let fall the iron ball it rebounds but little, while the rubber ball continues to rebound; thus the slanting shoulder rebounds from the ground, while the straight shoulder tries to combat with the weight. For the draught horse the straight shoulder is better, as it enables him to throw his weight into the collar, thereby pulling his load forward, while the slanting shoulder pulls, not only forward, but also upward, which, as he is not strong enough to lift the weight by his shoulder, he works, as a draught horse, to a great disadvantage.

The back short and straight for strength, but long underneath, to admit of long stride. Ribs round, not slab-sided, with plenty of room between the last rib and hip-bone. I know this is contrary to the opinion generally expressed by writers, of having their horses well ribbed home, as denoting endurance. If by endurance they mean "fat," they are right; but if they mean to do a certain number of miles in quick time without distress, they are wrong. Flora and Patchen are not ribbed home, neither are any of our first-class horses. To be ribbed home prevents a long stride, without which a horse can not be fast. I do not wish the rib to sink in, but still I wish it to be afraid of the hip-bone. Broad across the loins and long haunch. Great reliance is placed by some in the feeling of the tail; if it gives readily to the touch, he is considered of good disposition; if not, of bad. I have seen horses of "*easy*" tails, of most uneasy disposition. The tail has four cords—two underneath to lower it, and two above to raise it; so by cutting the lower cords the horse has but little power to keep his tail down, the upper keeping it elevated to an angle of forty-five degrees. The nicking, if done well, gives him an "*easy*" tail—if not, otherwise.

Have the chest deep in front and behind the fore-arms, giving the lungs and heart plenty of room to play in. Not too broad in front, as it makes him straddle, and prevents a long, quick step. The leg long in the fore-arm, as the muscles lie there, and let them be large and hard; but below that the shorter the better, as the cannon bone consists of cords, and the shorter the cord the stronger. Cannon bone flat. The leg straight in front, to prevent it turning inwardly and cutting the other leg, and also from turning outwardly and paddling. Let him stand straight upon them; if too far under, it receives too much of the weight, making him "*knee-sprung*," and also confines the action of the leg, so that he can not throw it well out in front, and if too far front, it also confines the action and does not reach, when striding, far enough back to receive the weight and carry it forward. Pastern long, bending to relieve the weight, and broad. Hoof high, open heel, prominent frog, full bars, and concave sole. The hind leg long from the hip to the hock, and well bent, on account of muscular power. Hocks large and strong; bow-hocked denotes weakness, although pacers generally are built so; it also prevents the legs moving in a straight line.

Have the leg straight; if not, the work comes mostly on one side of the cords, and it also wears upon one side of the foot. I think one great reason of our horses being so deformed in their legs, is that when colts, their feet are left to "*luck*," and if they wear down one side it tends gradually to make the leg bend that way, and instead of seeing a straight hoof around a cornet, we find it higher one side than the other, never to be cured.

See that he does not interfere behind, and if for speed, have him throw his front legs well out, and his hind legs well under him; also have the hind legs open wide enough to clear the front feet, and step over from three to five feet. If he does this, and "*gathers*" quick, he will make not only a fast one, but a good road horse, which is more to be desired.

The above description will apply to a draught horse, except he must be coarser built, with straight shoulder, straight pasterns, as he does not stand in need of being relieved of the jar, as he hardly ever is off of a walk. It matters little how he moves his limbs, provided he does not cut himself, and walks brisk.—*Country Gentleman.*

SHALL WE USE MUCK?

Farmers will answer this question variously. Some set a high value on whatever passes under the name of muck; while others think it is really worth but very little, as manure. When its use has been urged as an absorbent of the liquids of the barn or stable, we have heard farmers say they would rather have clear sand for that purpose. It is not, perhaps, easy to account fully for these discrepancies, though the matter admits of some explanation.

In the first place, the quality of what is called muck varies greatly. That which is found in upland basins, particularly in forests of hard-wood trees, is very different in its origin and quality from that which constitutes the substance of bogs. The former is composed of the vegetable and earthy matters which wash from surrounding high lands; the latter is made chiefly from mosses which grow more or less in water. In rocky woodlands, we have seen bodies of muck which were drained from the leaves and small branches of chestnut, maple and oak trees, with the debris of rocks, that proved on actual trial to be equal to ordinary barnyard manure for the production of Indian corn. It is not supposable that any farmer would prefer sand to *such* muck, even as an absorbent.

Probably a thorough analysis would show a great difference in the composition of the substance just spoken of and ordinary bog-peat or muck. The former doubtless contains potash, derived both from the leaves and from the rocks, as well as more or less nitrogen, while the latter is known to consist almost entirely of carbonaceous matter. At one of the agricultural discussions at the State House, last winter, one or two of the speakers stated that, from some trials, they did not think ordinary swamp muck was worth carting out, to be used as manure without any preparation, however thoroughly it might be decomposed. Still its value would depend something on the character of the soil to which it was applied. Purely carbonaceous matter can hardly be considered worthless. When spread on the land it is subject to decomposition, and being combined with oxygen probably forms carbonic acid gas, which is known to furnish largely the food of plants. But as this food generally exists in soils in considerable quantities, the application of materials for forming it is not strikingly beneficial, except in cases of unusual deficiency in organic matter.

But on tenacious soils, the mechanical action of muck and other carbonaceous matter is highly beneficial by producing friability. We are aware that the common practice is in favor of applying muck almost exclusively to light soils. It may supply some vegetable food in such cases, and in that respect may be useful; but at the same time it makes the soil more loose, and thereby increases what was previously a defect. And this may explain, to some extent, why sand saturated with urine may do more good on some land than muck used in the same way would. Hence, we think that *swamp* muck would be generally more useful on clay soils, well drained, than on sandy soils. We have seen excellent results from its application to clay. By plowing deeply, and thoroughly mixing the muck with the clay, a fine mellow loam was produced.

From what has been said, it will appear that it is important to select the best muck. This is of more importance where the muck is to be applied to the soil in a crude state, than where it is used as an absorbent. In barn cellars, where it is desired to bring the manure into so dry a state that it can readily be shoveled and carted, it may not be best to do it altogether with muck. Some regard should be had to the character of the soil to which the manure is to be applied, as we have shown above. But as in cellars both the liquid and solid excrement is deposited together, much absorbing matter will be required to make it sufficiently dry.

Muck has the advantage over sand or loam in having more absorbtive power, and also in being much lighter. Where the manure is not deposited in a cellar, the urine may be to a considerable extent absorbed by placing materials for the purpose under the stock, or in a trench in the floor in their rear. Muck is much more convenient to be used for this purpose than sand. If dry clay could be had readily, it would be advisable to use more or less of it, as its absorbtive power is very great, and it does not part with ammonia, for which it has a strong affinity. Another advantage of using muck in cold weather, is, it does not freeze so solid as sand. If a pile of it is made in one corner of a warm barn, where the animals stand, it can be worked down fine enough for use in almost any weather. Of course, the dryer it is the better, both from lightness in handling and the greater quantity of liquid it will absorb.

It should be borne in mind that ordinary swamp muck contains more or less tannic acid. This is in larger quantity where cedar, pine and hemlock trees have grown, and the muck also partakes more of the resinous quality of the wood which has decayed in it. These properties are noxious to vegetation, and should be got rid of before the muck is applied to the crops. The ammonia of animal manures (it is abundant in urine), will neutralize the acid and bring on general decomposition, by which the plant food will be brought into a soluble state. Potash, soda, or common wood ashes, will also counteract the acid. Lime is used for the same purpose; but experiments have shown that the former substances make the muck into the best manure.—*Boston Cultivator.*

Cutting Straw Stalks &c.—Jas. L. Bishop, of Madison Co., in the *Country Gentleman* of Dec. 6th, gives an elaborate argument against the economy of cutting hay and straw, particularly for ruminating animals. His objections are well taken, ingenious and to the point. Yet the experiments of cutting corn stalks, straw, &c., and treating the same with a little meal, the last winter, reduced the price of a very short hay crop from $15 the ton in the fall to less than half that price the present spring. Facts are stubborn things. s. w.

GRAVEL HOUSES.

Eds. Genesee Farmer:—I saw in your September number a request for information in regard to the best method of building a gravel house. Having had some experience in the business, I take the liberty of giving my views.

In the first place, the cellar must be dug and a trench dug directly under the wall, and a drain stoned and capped with large flag-stone, with a drain to carry the water from the cellar. This done, and the cellar squared, you are ready to commence your wall. My plan is to set up perpendicular studs, 2 by 4 inches, inside the wall, one in each cornor of the building, and as many as may be useful between, for carrying up the wall. These studs should be as high as you wish your room. The studs should be stayed firmly at the top and bottom. It is thought by some that it is necessary to lath and plaster inside, to prevent damp. In this case, there should be a suitable number for lathing, say 1½ to 2 feet apart. This done, and your studs plumbed and stayed, you are ready to commence your wall.

Now, for the curbing, I should prefer a curb 18 inches wide, made of three boards 6 inches wide and put together with cleats firmly. The three pieces will prevent warping of the curb. The curb should be set up and held by gripes, made tapering with a notch at each end sufficient to receive the edge of the curb. In building from the bottom of gravel, the cellar wall should be from 14 to 16 inches thick, in proportion to the height of the building. If of two stories, 14 inches will answer. The second wall should be 10 inches, and the third 8 inches; keeping the outside of the wall plumb. At the top of each wall there should be a plank 1¼ to 1½ inches thick, and 6 inches wide, to rest the floor timbers on. These should be locked together at the corners, and halved together at each lap and nailed firmly.

Respecting the gravel, it may vary in size from coarse sand to the coarsest gravel. It should be clean from dirt or loam. The proportions of material should be about one bushel of unslaked lime to twenty bushels of gravel. The lime should be slaked in a large vat, sufficient to hold it when thinned to the consistency of thick cream. Then run it into the gravel bed and shovel it from one end of the bed to the other, till the gravel is thoroughly coated. This done, and you are ready to carry it and place it into the wall. When put into the curb, it should be puddled down with a trowel. After the curb is filled, it should remain on about twenty-four hours, then the gripes loosed and the curb raised. I would prefer two sets of curbing; letting the last curb filled remain until the next is filled, then loosen at the bottom and remove the under curb and place it on the top. Proceed in this way until the wall is complete.

As to durability, I think if the material is thoroughly mixed and well put in, there can be no doubt that it will stand for ages, and I think a house can be built with at least two-thirds the expense of either wood or brick.

I have not time or space to give the whole particulars at present, but will give them fully if any one desires them. WM. B. SALISBURY.

Sandford, Broome Co., N. Y.

Three Vermont Farmers.—One man in Richford has 900 acres of improved land; and besides summering and wintering 19 horses, 85 cows, 120 other cattle; and 55 sheep, bought in the spring of 1859, 120 head of cattle, pastured them through the season, sold them in the fall, and received $500 net for pasturing. He also had one and a half acres planted with French or Osier willow—cut from the same six tons of green, equal to two tons peeled and dried. Cost of peeling and drying 2 cents per pound—worth in market from 5 to 2½ cents per pound. Another man in Sheldon has 300 acres of improved land, and besides wintering 10 horses, 21 cows, 2 oxen, 32 other cattle and 225 sheep, sold last season $650 value of horses, $600 value of cattle, $400 value of wool, $75 value of sheep, and $50 value of hay and other produce. A man in Enosburgh has 330 acres improved land, and besides wintering $1,090 value of live stock, sold $2,500 value market cattle, raised upon his farm.—*Springfield Rep.*

The Uses of Drought.—Prof. Higgins has learned from repeated and and careful experiments, that the action of drought is to bring inorganic matter (mineral plant-food) from below to the surface of the soil, available food for the crops of the next season.

The same good results the same season from organic manure in a trying drought, if previously buried deeply in the soil. The largest garden crop of sweet corn this deponent ever had was in that season of unusual drought, 1854. Unfermented stable manure had been trenched in the fall before, the final decomposition of which took place as the corn was filling, and every ear was perfect; the leaves rolled by day, but expanded again during the night, while the leaves of field corn were rolled for weeks together, and the ears not half filled at the harvesting. S. W.

Hints for January.—Let saving be the watchword for this month. Save the flesh of animals by attending to their comfort; keep them warm, sheltered and clean; feed and water them regularly; give wholesome food, and pure water; keep stables clean and well ventilated; watch animals, and supply all wants; save fodder by good feeding racks; never allow hay to be wasted in the mud; racks save their cost every month; feed often and in small quantities; shelter cattle from sweeping winds; shelter sheep from driving storms; shelter swine in clean, warm beds. Avoid the waste of using wet wood; fill the woodhouse for summer use; save chips and cobs for kindling. Protect trees from mice by treading snow about them. Subscribe for agricultural papers, and suggest the same course to others.—*Tucker's Annual Register.*

Taste of Turnips in Butter.—I noticed an inquiry in the October number wishing to know if cows being fed turnips immediately after milking, whether there would be any taste discernible in the butter? I have fed turnips to milched cows for this last 15 years, both before and after milking; when fed before milking, the butter would taste of the turnip, when fed after milking no taste would be discernible.—H. W., *Kent Co., C. W.*

J. C. LOUDON.

There are few men who have done more for agricultural and horticultural literature than the late JOHN CLAUDIUS LOUDON. His *Encyclopedia of Agriculture* and *Encyclopedia of Gardening*, are standing monuments of his industry and research. We have later works on these subjects which contain the results of more modern investigations. But they can never supercede the works of LOUDON—they are valuable appendages to them. LOUDON's *Arboretum et Fructicetum Britannicum* is indispensable to every student of Arboriculture. The same may be said of his *Encyclopedia of Plants.*

J. C. LOUDON was born at Cambuslang in Scotland, in 1783. He was the eldest son of an intelligent farmer, who was anxious to give his son the advantages of a liberal education; but it is said that young LOUDON, though fond of books, could in no way be induced to study Latin and French. He early manifested a taste for Landscape Gardening. His father sent him to school at Edinburgh, and here he overcame his dislike to Latin; though he still could not make up his mind to learn French, till one day, when he was about fourteen, his uncle, showing a fine French engraving to a friend, asked his nephew to translate the title. This he could not do; and the deep shame and mortification which he felt, and which he never afterwards forgot, made him determine to acquire the langunge. Pride, however, and a love of independence, which was ever one of his strongest feelings, prevented him from applying to his father to defray the expense; and he actually paid his master himself, by the sale of a translation which he afterwards made for the editor of a periodical then publishing in Edinburgh. He subsequently studied Italian, and paid his master in the same manner. He also kept a journal from the time he was thirteen, and continued it for nearly thirty years; writing for many years in French, in order to familiarize himself with the language.

He attended classes of botany, chemistry and agriculture in the University, and got considerable practical knowledge of horticulture and landscape gardening from Mr. DICKSON, a nurseryman, with whom he resided for some time.

In 1803 he removed to London, where he set up as a professional gardener, in which he was eminently successful.

In 1804 he published his first work, entitled "Observations on the Formation and Management of Useful and Ornamental Plantations; or the Theory and Practice of Landscape Gardening, and Gaining and Embanking Land from Rivers or the Sea." In 1806 he commenced the study of German, paying his expenses, as he had done before, when he learned French, by selling for publication a pamphlet which he had translated by way of exercise. In this case, the translation being of a popular work, it was sold for $75. He also took lessons in Greek and Hebrew. The following extract from his Journal, in 1806, will give some idea of his feelings at this period: "Alas! how have I neglected the important task of improving myself? How much I have seen, what new ideas have developed themselves, and what different views of life I have acquired since I came to London three years ago! I am now twenty-three years of age, and perhaps one-third of my life has passed away, and yet what have I done to benefit my fellow men?"

In 1808 he rented a farm of 1500 acres, 18 miles from Oxford, and established an Agricultural school. Here he remained only three years. The next two years he spent in traveling on the Continent.

By this time he was possessed of a considerable sum of money, and was induced to *speculate*—and soon lost the whole of it. From this time he devoted himself to writing. He set about collecting materials for his *Encyclopedia of Gardening*— visiting France, Italy, &c., and taking notes of everything that he thought would be useful in his contemplated work. In 1822 the first edition of the *Encyclopedia of Gardening* appeared. It had an immense sale, and fully established the literary fame of its author. The *Encyclopedia of Agriculture* followed in 1825. In 1826 he started the *Gardener's Magazine.* This was eminently successful, and was for five years the only work of the kind published in England. In 1831, Mr. PAXTON started the *Horticultural Register.* At this time the *Gardener's Magazine* afforded a profit of $3,750 a year, but gradually decreased after the appearance of its rival, and was given up on the death of Mr. LOUDON in 1845.

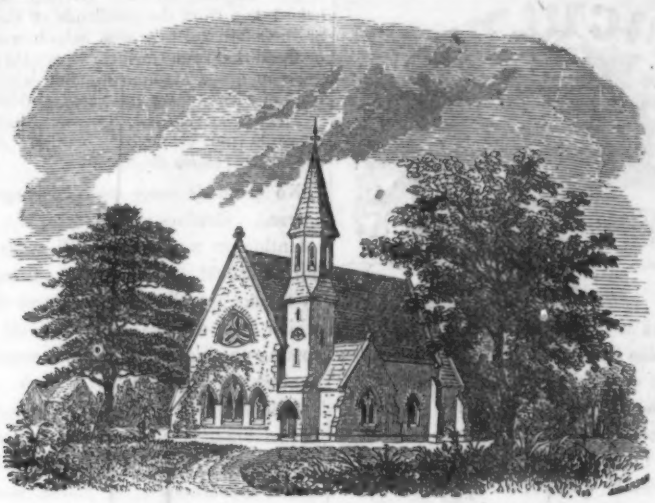
Mr. LOUDON married in 1830. How this came to pass will be best told by an extract from the biography of Mr. LOUDON, written by his widow, as follows:

"About this time, Mr. LOUDON formed his first acquaintance with me. My father died in 1824, and finding, on the winding up of his affairs, that it would be necessary for me to do something for my support, I had written a strange, wild novel, called 'The Mummy,' in which I had laid the scene in the twenty-second century, and attempted to predict the state of improvement to which this country might possibly arrive. Mr. LOUDON chanced to see the review of this book in the *Literary*

J. C. Loudon

Gazette, and as, among other things, I had mentioned a steam-plow, it attracted his attention, and he procured the work from a circulating library. He read it, and was so much pleased with it, that he published, in the *Gardener's Magazine* for 1828, a notice of it under the head of 'Hints for Improvements'; and he had from that time a great desire to become acquainted with the author, whom he supposed to be a man. In February, 1830, Mr. LOUDON chanced to mention this wish to a lady, a friend of his, who happened to be acquainted with me, and who immediately invited him to a party, where she promiaed him he should have the wished-for introduction. It may be easily supposed that he was surprised to find the author of the book a woman; but I believe that, from that evening, he formed an attachment to me, and, in fact, we were married on the 14th of the following September."

From this time he devoted himself with renewed energy to the preparation of his numerous works, and also to his old profession of Landscape Gardening. The success of his *Encyclopedia of Architecture* induced him to undertake the preparation of his magnificent work, the *Arboretum et Fruticetum Britannicum*. The cost of publishing the *Arboretum* was much greater than he had anticipated and involved him in pecuniary embarrassments. Having resolved that all the drawings of trees for the *Arboretum* should be made from nature, he had seven artists constantly employed, and he was frequently in the open air with them from his breakfast at seven in the morning till he came home to dinner at eight in the evening, having remained the whole of that time without taking the slightest refreshment, and generally without even sitting down. After dinner, he resumed the literary part of the work, and continued writing, with Mrs. LOUDON as his amanuensis, till two or three o'clock in the morning. He struggled most manfully, and reduced the debt incurred for the *Arboretum* from $50,000 to $12,000, but one of his creditors became bankrupt, and his assignees threatened to institute legal proceedings against him and to arrest him for the debt, &c. This unquestionably hastened his death, which took place Dec. 14, 1843.



DESIGNS FOR COUNTRY CHURCHES.

GOTHIC CHURCHES FOR THE COUNTRY.

The general style of church architecture, in our rural towns and villages, has greatly improved within a few years; yet the majority of country churches, even of recent erection, are far from being as attractive externally or internally as could be desired.

How beautiful in appearance would be one of the above Gothic churches placed upon a spot of green lawn in one of our rural villages, amid our magnificent shade trees, with its walls covered with the clinging ivy or Virginia creeper!

We think no one can become familiar with the forms and outlines of the Gothic style as applied to church architecture, even in the comparatively simple manner represented above, without being impressed with its superiority, both in point of significance and beauty, over the Grecian structures, still so commonly built for churches in many parts of the country. True, such churches as we allude to may be more expensive than the wooden structures so appropriately termed "meeting houses," but when stone is used, the cost is little more in one case than in the other.

THE CURRANT.

The hardiness of this shrub, the ease and rapidity with which it can be propagated, its productiveness and its valuable qualities as an edible fruit in whatever way it is used, have rendered it highly esteemed, and caused much attention to be paid to its culture and improvement.

The red species is a native of this country and the old, small red kind that used to be commonly cultivated in the gardens, was undoubtedly this sort; all the improved varieties have, however, been brought from Europe.

In a work entitled "the Companion for the Orchard," by Henry Phillips, F. H. S., published in London in 1831, we find the following:

This agreeable and wholesome fruit is undoubtedly a native of our country; it was formerly found growing, in the wild state, in the woods and hedges of Yorkshire, Durham, and Westmoreland, as well as on the banks of the Tay, and other parts of Scotland. The red currant grows naturally in Sweden and other Northern parts of Europe. The white is only a variety of it, and was at first accidentally produced by culture. The salmon color, or Champaigne currant, is evidently the offspring of accidental impregnation, and has nothing but variety to recommend it.

The common black currant, *ribes nigrum*, is a distinct species of this kind of fruit, as is marked by its strong-scented leaves and berries, and of which even the wood partakes so sensibly, as to impart by its odor a correct idea of the flavor which the fruit gives to the palate. As a further proof of its being a Northern fruit, we have no account of its being known at all to the ancient Greeks or Romans, who have been very accurate in describing all the fruits known in their time. It seems not to have grown so far south as France; for the old French name of *groseilles d'outre mer* evidently bespeaks it not to have been a native of that country, and even at the present time the French language has no appropriate name for it distinct from the gooseberry. The Dutch also acknowledge it not to have been indigenous to Holland, where it was called *besskins over zee*. Whether the Dutch first procured this fruit from Britain, or from any other northern countries, we must acknowledge ourselves indebted to the gardeners of that country for improving the size, if not the flavor, of this fruit.

The English name of currant seems to have been taken from the similitude of the fruit to that of the small Zante grapes, which we call currants, or Corinths, from Corinth, where this fruit formerly grew in great abundance, and which is so much used in this country for cakes, puddings, &c.

The Italians seem to have no other name for the currants than *uvette, little grapes*. At Geneva they are called *raisins de Mars*.

No plant is more easily propagated than the currant. Cuttings planted with the least care and attention, in most cases, will make good plants; but we would advise that the cuttings be prepared by taking out all the eyes except the upper one, which will effectually prevent all suckers from coming up, and make the plant assume the form of a miniature tree instead of a bush.

This method of growing on one leg, as it is called, has advantages, which are not apparent to ordinary cultivators. It admits of clean cultivation, gives a neater appearance to the plants, enables the cultivator to prune them with more method, and, if attacked by insects or disease, the application of remedies is more easily and effectually made.

Another mode of training the young plant is the pyramidal form; the cutting should be prepared as previously described, and a strong, vigorous shoot secured the first year; early in the following spring cut back two-thirds of the shoot and strong side branches will be produced; one shoot only should be allowed to grow upright, which will afterwards furnish more side branches—the side branches during summer must be pinched in and be made to give the plant a pyramidal shape. Attention to pinching and pruning will in due time give the desired form.

The proper distance for planting Currants is from three to four feet, when grown in bush form or on one leg, but, as pyramids, they require six feet.

The time of ripening the fruit may be much accelerated or retarded by the situation of the plants. On the south side of a tight fence they will ripen a week or ten days earlier than when remote from any shelter. On the north side of a fence the fruit will be greatly retarded in its ripening, and will hang long on the stems after maturity. By attention to these points in planting, if it is desired to have the fruit for a long season, it may be in use at least four months.

Although the currant lives and produces fruit in the worst soils and in a state of utter neglect, yet no fruit will quicker exhibit the effects of good soil and careful cultivation; in a well conducted garden the currant grows thriftily and bears abundant crops of fruit.

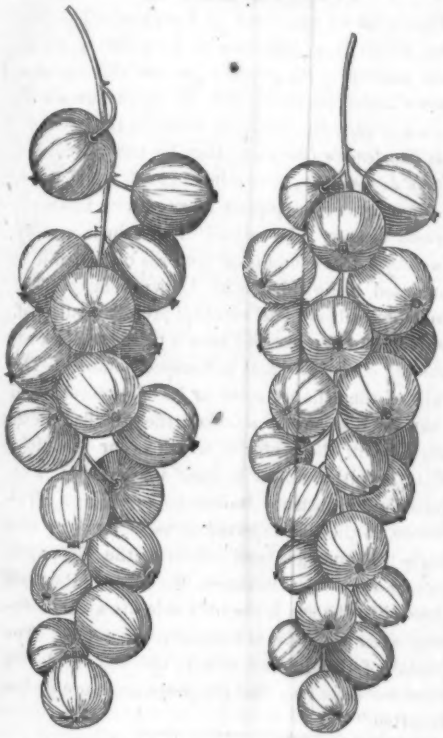
To keep the plants in a vigorous condition and insure the largest crops, an annual top-dressing, of well rotted stable manure, is necessary, applied in the fall, and forked in in the Spring.

The annual pruning which the currant requires after the tree is properly formed, is only such as is necessary to thin out shoots that are growing too thickly together and to keep the plant in proper form.

The fruit is borne on short spurs, on wood two years old and over.

With the Black Currant, however, the fruit is borne on wood of the previous year's growth, and the sytsem of pruning, applied to it, must be one that has for its object a constant supply of young wood and the destruction of that that has borne.

The uses of the currant are numerous and so well known that they scarcely need to be mentioned; no fruit is more healthy or more generally liked in its fresh state, and for jellies it is prized by housekeepers more highly than any other sort; by bottling in the method now so common, it can be preserved fresh the whole year; and for wine, both the red and the black varieties are next to the grape in value.



LA VERSILLAISE. FERTILE D'ANGERS.

The cultivation of the Black Currant especially, on a large scale, for wine, we would recommend without hesitation, as a profitable branch of enterprise.

HATIVE DE BERLIN.

The diseases and insects by which the currant is sometimes attacked, we will not here consider, but glance at a few of the most popular varieties of this fruit. The *White Dutch* and the *Red Dutch* are tooo well known to need a description. They have long held and still maintain a high reputation.

WHITE GRAPE. — The bunches and berries are somewhat larger than those of *White Dutch*, but in other respects has no advantages.

RED GRAPE. — Bunches and berries very large; a little more acid than *Red Dutch*. It is very productive.

VICTORIA. — This sort which attracted so much attention a few years ago, has become generally known, and is a popular variety. Berries are of large size, bright red, and the bunches are very long. It is a great bearer, and the fruit hangs several weeks longer on the bushes than most other sorts.

CHERRY.—This is the favorite among all the red currants on account of its extremely large size and great productiveness.

Among the new sorts lately introduced into this country, but which have not yet been thoroughly tested, are the following:

LA VERSAILLAISE.—Bunches very long and berries large, of a bright red,color, very handsome. Promises to prove a valuable sort.

FERTILE D'ANGERS.—Bunches medium size, berries large, bright red, very productive.

HATIVE DE BERLIN.—Bunches medium size, berries large, bright red color, early and productive.

The specimens from which we took the engravings here represented, were probably not as fine as we may expect to procure, another season, on older plants.

Of the Black Currants, we would recommend the *Black Naples* as superior to all others of its class.

TO DESTROY INSECTS ON PLANTS.—Mealy bug, thrip, and other insects which invest plants, may be destroyed by the following composition: 8 lbs. of whale-oil soap and 4 lbs. of flowers of sulphur incorporated together. Put this into 16 gallons of boiling water. Let it cool to 112° and then syringe the plants with it.

WINTER PEARS.

The splendid yield of fruit during the past year has developed a large experience, and we expect to find that the results which fruit-growers have obtained and "made a note of," during this unexampled season of harvest, will prove to be of great value. It is important to the cause that all should give their experience.

Our remarks are tending to *Winter pears*, and to the *Glout Morceau* variety in particular. During the past few days, we have been so fortunate as to "have the eating" of some individuals of this splendid sort, and our ideas of it have become, if possible, more enthusiastic than ever before. We have given the matter some thought, and to the pears some attention, and have arrived at the following conclusions:

1st. That it is about as easy to have good winter pears as winter apples.

2d. That sensible people, as soon as they arrive at an appreciation of this fact, will raise winter pears—for they are worth raising.

Many pomologists, as well as many persons out of the pale of this enviable distinction, who, nevertheless, raise a few pears, have discovered, or have thought they have discovered, that it is one thing to have a specimen to grow to a respectable size upon the tree, but that it is quite another thing to induce the same specimen to ripen judiciously and lusciously in the house. Hence, in consideration of this supposed shortcoming on the part of the pears, the wise ones have given out various rules, more or less complex, for the "ripening of pears in the house;" the ostensible design of which process was to avoid tastelessness, and attain —— something different and more desirable.

Our own opinion is, that *well grown fruit* will ripen without giving us any such trouble. No doubt the insane haste, so prevalent lately, to obtain fruit quickly—no matter about the quality of it, much less the well-being of the tree—has caused a great quantity of poor, ill-grown, colorless, white-livered specimens to be picked annually, and carefully laid away in the drawers or on the shelves, according to the rules, with the pleasant expectation—designed never to be realized—that they would, some way or other and some time or other, become "delicious eating." While the fact is, that it is absolutely necessary, for the well-being both of the tree and the fruit, which is its offspring, that the former should attain a certain age and size before being allowed to come into bearing; and he who expects to have perfect fruit, must first bargain for a perfect and mature tree.

The *Glout Morceau* is a variety which will not be hurried, even when cultivated on the quince—which is the best place for it. It is a fine, hardy grower, and in six or seven years forms a sturdy tree, calculated to bear a good even crop of good pears, which almost invariably ripen up into fine eating condition with little or no trouble. The specimens to which we alluded were picked from the trees late, and kept in a barrel *out of doors*, until coming frosts warned them in, when they were simply rolled into a cellar; and there they are all ripening perfectly satisfactorily, in precisely the same way, and side by side with our *Greenings* and *Spys*. Pears, which were perhaps given the cold shoulder in "peach time," are a rarity and a luxury now. In connection, we may remark that it is a fact we ought to be thankful for, viz., that these *good fruits* come in their own good time, and so opportunely, as to bring to us their greatest possible value.

Cracking of the Pear in England.—This disease, which is so injurious to *Virgalieu* pears in some sections of this country, has not hitherto been known in Europe, but the Rev. Mr. Berkeley, a well known criptogamic botanist, states, in the last London *Gardener's Chronicle*, that he has received a *Marie Louise* pear, grown in England, which, from his description, is evidently affected with this mysterious disease. He says: "The skin is equally discolored, the contents of the cells of which it is composed being filled with brown matter. The immediate subjacent cells seem at present unaffected, but further down diseased brown patches occur, reminding one of the spots in diseased potatoes. The walls of the cells are more or less discolored; and when the disease has attacked the peculiar radiating cells, in the center of which occur the pithy cells, the pithy matter is itself impregnated with the brown substance indicative of decay. The disease, in the case reported to us, is confined to a single tree among several others of the same variety; and in many instances, the side of the fruit exposed to the sun is the only side diseased—a circumstance we have not observed in apples. The growth of the diseased side is checked, while the other increases; so that the pears are more or less distorted."

Large Fruit.—The *California Farmer* says that J. H. Ellsworth, of San Jose Mission, California, grew a pear the past season which weighed three pounds six ounces; and Judge Hester, of the same place, raised an apple weighing two pounds six ounces.

AMERICAN SHADE TREES.

"Woodman, spare that tree."

We propose furnishing an article or two on the cultivation of such native trees and shrubs as are distinguished for their beauty and singularity. We do not expect that anything we may advance on the subject of trees and shrubs will have any influence, or awaken those who have grown gray in their indifference to the productions of our native woodlands; but we do hope to excite and stir up the *young*, whose habits of thought and action are not yet formed, and who have not become wholly possessed of the one idea—that of money-making—which blights and destroys all the finer and better feelings and tastes.

A desolate place indeed would the world appear, if its population ever increased enough to sanction the presence of the husbandman, accompanied by all the modern improvements in agriculture, in those spots rendered grand by trees whose age and stature so enchant mankind, but whose overspreading boughs are proclaimed inimical to the growth of the staff of life! We will hope, however, that the price of the cheap loaf will never require to be maintained by the introduction of the woodman's axe into places whose traditions are solely about their trees; whose picturesque scenery depends upon their existence; and whose inviting shade and various associations assemble beneath their branches the lovers alike of poetry and romance. Approach not such places, you model farmers, who prefer the sight of acres laid out by rule and line, to that of nature's wild and beautiful devices. We repeat,

"Woodman, spare that tree!"

Trees are not only useful and ornamental, but also, by their mere existence—by their breathing oxygen—eminently conducive to health. They are the companions of man, as much as some of the domestic animals; and have, as such, acquired a certain right to his protection.

He only who has a knowledge of trees, and who has learned to appreciate their beauties, can enjoy the pure pleasures of the country. In the spring of the year, the budding and blossoming of the various species are noted from day to day with a lively interest; and not for their beauty alone, but as indicative of the earliness or lateness of the season. So are the periods of the maturity of their seeds, and the autumnal changing and falling of the foliage. These are the interesting and beautiful signs of the progress and change of the season, that every man, and woman too, living in the country, should by no means be insensible of.

There are few objects in the vegetable world really more interesting and beautiful than the noble forest trees of our country. Thousands and thousands of dollars are annually expended in ornamental planting; and while rare and costly trees are gathered from all parts of the globe, our own beautiful trees are neglected. People who have not seen our native trees in open, airy situations, under good, careful culture, know nothing of their real beauties. An elm or tulip tree, crowded up in a thicket, with a tall, naked trunk thirty or forty feet high, and a mere tuft of leaves on the summit, is a totally different object from the same tree standing on a lawn, with a finely developed form and luxurious foliage. Trees, like men, and more than men, show culture and care in their training.

What tree can be more beautiful than our chestnut, with its large, glossy leaves, and graceful cluster of flowers; or the elm, with its wide-spreading and gracefully-drooping branches; or the scarlet maple, with its bright and early blossoms and silvery foliage. Then our noble oaks, hickory, butternuts, black walnuts, lindens—and the locust, with its pink-white flowers; the tulip tree, with its flowers as large and beautiful as the world-renowned tulip. It is one of the noblest and finest deciduous trees in the world, whether we consider its habits of growth, or lofty and elegant form, its beautiful foliage, large and tropical like, and glossy. The locust, the lower branches almost touching the ground, and the whole forming a magnificent pyramid in full bloom, some fifty feet high, and often forty feet in diameter. The horse-chestnut, the lower branches nearly touching the ground, and whose white flowers almost cover the tree, making a magnificent and very brilliant appearance. The catalpa, with its ample, heart-shaped leaves, clusters of rich and beautiful flowers, and wide-spreading summit, give a strong character to this tree, which differs from all others in the fewness of its branches. The lime or linden tree—commonly called basswood—when planted singly on a lawn, and allowed to develope itself fully on every side, is one of the most beautiful of trees. Its head forms a fine pyramid of verdure, while its lower branches sweep the ground, and curve upward in the most pleasing form. The pleasant odor of its flowers is an additional recommendation, as well as its free growth and handsome leaves. The flowers are brown, on long stalks, and are pendulous from their branches. It is a pleasing object when planted in avenues and straight lines.

The maples are, for the most part, beautiful trees, of considerable size; generally employed in forming avenues, and in many parts of the country lining the roads. There are many species of maple found in our forests, which are generally lofty and beautiful trees; but by far the most interesting tree of this family to the American is the sugar maple. In some parts of the country it is called rock maple. It forms one of the finest shade trees, assuming, when standing alone, a regular and beautiful form. Some fine specimens of this beautiful shade tree may be found in the cities of Po'keepsie, Troy, Rochester, and most of the villages and towns in the country.

No country on earth is more blessed than ours. None can boast of such a variety of forest trees. In no other country do we find such magnificent shade trees.

And why should we not have fruit and shade trees together? Why is not the shade of a fine cherry tree as valuable as an ash or an oak? It is equally so. If you ever enjoyed the delight of getting up into the body of a large *May Duke*, or *Ox Heart*, when a boy, with free liberty to eat your fill, or till you are sick, you have reminiscences of which we would not deprive you. Have you ever shaken a chestnut or a shell-bark hickory tree, and carried home the nuts on your back, in a large grain bag? Did you ever hull walnuts, and have black fingers for weeks thereafter?—not being aware that soap makes them blacker, and vinegar and bran

removes the color. If you have performed these feats—the first of your knowledge of the pleasures of acquisitiveness—when you plant, will you not think of the succession of young and happy hearts that will climb your plantation for a century to come—perhaps your own descendants—and will you not gratify yourself and them by remembering this little list?

Among all the materials at our disposal for the establishment of country residences, none are at once so highly ornamental, so indispensable, and so easily managed, as trees. "A tree, undoubtedly, is one of the most beautiful objects in nature. Airy and delicate in its youth, luxuriant and majestic in its prime, venerable in its old age, it constitutes, in its various forms, sizes, and developments, the greatest charm and beauty of the earth, in all countries. The most varied outline of surface—the finest combination of picturesque materials—the statliest country house would be comparatively tame and spiritless without this inimitable accompaniment of foliage. Let those who have passed their whole lives in a rich wooded country—whose daily visions are deep leafy glens, forest-clad hills, and plains luxuriantly shaded—transplant themselves for a moment to the desert, where but few stunted bushes raise their heads above the earth; or those wild steppes, where the eye wanders in vain for some 'leafy garniture'—where the sun strikes down with unbroken fury—and they may perhaps estimate, by contrast, their beauty and their value."

It would be very easy to multiply examples, and to increase a list which we have made brief; and to add that we recommend the cultivation of trees and shrubs purposely for the health and attraction of our friends, the singing birds. By all means, plant trees.

C. N. BEMENT.

Springside, N. Y.

SETTING A GARDEN.

EDS. GENESEE FARMER:—Setting a garden, to one who has an interest in horticulture, is a very agreeable piece of work. Of course, it will not be done perfectly; perhaps not quite satisfactorily to the one who does or plans the work. Very few gardens of fruit and ornamental trees are set that are not destined to some change of arrangement, or to some modification of fruit by the same owner. Frequently, when a new person comes in to dictate, his improvements fall little short of vandalism. I have known men, who—having little method themselves—have employed different gardeners from year to year to "do what was necessary," and have had their garden as many times rooted up and re-set! Such things, it is to be hoped, are not common; but to avoid them every owner of a garden should himself know something about the matter, and be able to assign a reason for putting every tree where it is put.

Twelve years ago I knew nothing of horticulture, but purchasing a lot of land about five miles from Boston with a view of building upon it, I began to read upon the subject, and since then a good portion of my leasure time has been devoted to it, and with healthful pleasure. I endeavored to get the very best sorts of fruit trees, and the most desirable ornamental, and gave them, as best I could, fit positions in the lot. No tree was set simply because there was room for it, but because it might do well and look well there.

POSITION:—If there is any advantage in one position for a site for a garden over all others, it is generally a matter which one cannot well avail himself of, as controlling circumstances usually prevent any one from a free choice. It should not, however, be overlooked. Much depends upon geographical position. A certain aspect in the New England States, near the coast, would not be desirable, as the raw east winds of the spring and early summer months are known to be hurtful to the fruit buds — particulaly to those of the peach; though to the quince and plum, rather beneficial. Every position may have some advantage over the others; but perhaps, generally speaking, the south-western aspect is superior, and for the raising of fruit, with a moderate elevation.

For beauty, an undulating surface, or an irregularly shaped lot—or one combining both characteristics—is preferable. It will give greater advantage for the display of ornamental trees and shrubbery, and hence more picturesqueness. In an acre lot the house should be set five or six rods from the street, and generally nearer to one side of the boundary than the other. This will give a good opportunity for a handsome drive-way or approach to be dressed with trees and shrubbery—and a portion for a stable if needed. In laying walks or avenues, straight lines should generally be avoided, particularly in the ornamental portion. It is a good plan, however, to run a walk around the lot four or five feet from the boundary, when not conflicting with the ornamental arrangements in front, for the purpose of access to the trees with a wheelbarrow or otherwise. And then some right-angular intersecting paths are important, with trees in a straight line, for the purpose of access and tillage by the plow or cultivator. But these matters must in a measure be controlled by thesurface of the lot.

Respecting fruit trees, the principal ones, with most persons, will be the apple and the pear.—Apple trees, if other arrangements will permit, should be set in the poorer soil, leaving the best for the pear. I should plant them about ten feet from the back and side boundaries, and about twenty-five feet apart, leaving the front line to something more ornamental. They should be set, also, in the more central portions of the lot. The borders of some of the intersecting paths might be devoted exclusively to pear trees where the soil is sufficiently strong. Fifteen feet apart would answer for the standards, and eight or ten for the dwarfs—the latter of which occupying the richest soil. Peach trees might be interspersed among the apple trees. Plum trees I should reject as cumbers of the earth. Five or six cherry trees, most of them the later sorts, would be desirable, and the front portion of the lot would be the best place for them.

Twenty-five or thirty apple trees, with double the amount of pear trees, might well be planted on an acre lot, without encroaching upon the ornamental department, or upon the various small fruits and vegetables. Most of the varieties of the apples should be of the later keeping, and of the pears the fall and early winter.

Grapes, could any excellent varieties be found certain to ripen their fruit in the open air in this

latitude, would be conveniently and cheaply planted to stakes or ornamental trellises, in the position and line of trees. But it is an unsafe operation without an early variety. Vines planted to run upon some support or on the south or western side of buildings may do very well. The past season in this region, certainly has shown that they cannot be too much sheltered or encouraged in ripening; for where one bunch has ripened in the open air ten have been destroyed by the early frosts. If a good grape exists sure to ripen perfectly by the first of October, it must be valuable, and might be set with a good degree of safety to exposed trellises—for usually we have no heavy frosts before this time. One of the most economical supports for hardy grapes is a dead peach tree (which by the way is very common,) a portion of whose roots should be cut off and the earth well mellowed; and if the vine does not require systematic trimming, or the owner can forego it it will be a desirable thing. I have an oak 25 feet high, not needed as a *live* oak, which I intend to kill and cover with a grape vine—perhaps the Concord, if nothing surer presents itself.

Of ornamental trees evergreens can hardly be too numerous. Among the most beautiful and hardy are the Norway Spruce, the Hemlock and the common White Pine—the latter of which is now being re-instated in decorated grounds. In connection with these, the Mountain Ash with its scarlet berries of winter, makes a beautiful contrast. The Tulip tree, the Yellow Siberian Crab, the Ailanthus, the Magnolia and the Linden, are very desirable; the Elm and the Maple need no commendation.

Trees planted and nursed by one's own labor will always be objects of regard to him, whatever his subsequent condition or wherever placed; and though he may eat their fruit and sit under their shade till the close of his life, every year they will present new points of interest and new forms of attraction.

West Medford, Mass., Dec., 1860. D. W. L.

THE NURSERIES OF ROCHESTER.

A correspondent of the London *Gardener's Chronicle* says: During a late tour in America I spent two weeks in Rochester, Western New York, and visited the surrounding neighborhood; from what I have seen I think I can safely say that this is the garden of America; the soil being naturally fertile. Vegetation of all kinds is most luxuriant; owing to the proximity to Lake Ontario, and the many cataracts on the Genesee River, which flows through this city, the atmosphere is always more humid, and the climate much milder than that of other localities of the same latitude. There is no place in the States where a greater variety of fruits can be successfully grown than in the neighborhood of Rochester. These great natural advantages do not pass unimproved, for here, when but 75 or 80 years ago the panther, bear, and other wild beasts of the forest maintained uninterrupted possession, we now find upon an area of 15 miles diameter upwards of 5000 acres of land compactly covered with nursery stock. Almost every variety of tree, vine, plant, &c., which is contained in the old and long established nurseries of Europe is grown here in the greatest perfection. I am informed too that the demand is equal to the supply, and that trade generally is gradually increasing.

ORCHARDS ON STEEP HILL-SIDES.

A correspondent of the *Gardener's Monthly* says:

"I would always prefer a sheltered situation behind a hill or wood for my orchard. Steep hill-sides are generally objected to for planting an apple orchard; but I think a steep hill-side is not the worst place, by any means. My hill-side orchard is doing quite as well as any I have. It is in the form of a half circle, with a south-eastern exposure. I planted my trees in a half circle to suit the hill, in order to make it more pleasant to work, and also to keep it from washing. I think that trees can be placed much closer on a steep hill-side, than elsewhere, to advantage. My method of cultivation has been to plow down from the upper side to within four or five feet of the next row. I plow the first furrow close to the row with one horse; I then plow the balance with two horses.

"In four or five plowings it will form a terrace that will answer a very good purple. I had also planted a row of nursery trees with each row of orchard trees, which did very well. By merely working from the upper side, the spaces are now level, or rather inclining a little back, which causes it to retain moisture much longer than it did before it was plowed into terraces. The spaces between the terraces I use for strawberries, blackberries, seed-beds, etc. It is also a first-rate place to raise early vegetables.

"This side-hill used to be a regular eye-sore, but now it is the prettiest part of my farm. I think we can make no better use of our steep side-hills than to plant them with trees, if it were for nothing else than for the appearance. The grass growing on the terraces we used, when the trees were young, for mulching, drawing mellow ground on them from the upper side."

SIZE OF EUROPEAN PARKS.—The following table gives the size of some of the most celebrated European parks:

	Acres.
London—All parks in and near London, including gardens, squares, and parade-grounds,	6,000
Ditto. Hyde Park,	380
" Kensington,	227
" St. James' Park,	87
" Green Park,	56
" Regent's Park,	372
Windsor—Great Park,	3,500
" Little Park,	300
Richmond Park,	2,250
Dublin—Phœnix Park, about	2,000
Gardens at Versailles, about	3,000
Paris—Bois de Boulogne,	2,158
Berlin—Thiergarten, about	200
Munich—Englischer garten, about	500
Vienna—Prater,	1,500
Magdeburg—Park and garden	120
Birkenhead Park, near Liverpool,	180

The size of the New York Central Park is 843 acres.

VACCINATING THE GRAPE VINE.—A French horticulturist, Colonel de GOLBERG, claims to have discovered a method of preserving grapes from mildewing, by vaccination. He placed one or two seeds of the mildewed grapes in the vine. A clammy matter was formed in the interior of the incisions, and the grapes entirely escaped the mildew; while one vine which was not vaccinated, lost every one of its grapes.

Ladies' Department.

THE SILENT CONFLICTS OF LIFE.

A TRIUMPH in the field is a theme for poetry, for painting, for history, eulogistic and aggrandizing agencies, whose united tribute constitutes Fame; but there are victories won by men *over themselves* more truly honorable to the conqueror than any that can be achieved in war. These silent successes we may never hear of. The battles in which they are obtained are fought in solitude, without help, save from above. The conflict is sometimes waged in the still watches of the night, and the struggle is often fearful. Honor to every conqueror in such a warfare! Honor to the man or woman who fights temptation, hatred, revenge, envy, selfishness, back to its last covert in the heart, and then expels it for ever. Although no outward show of honor accrues to the victors of these good fights, they have their reward—a higher one than fame can bestow.—*Presbyterian.*

THERE is no error more common than that which leads us to imagine that the station we occupy is *not* that to which we are best fitted, and to suppose that, had we been placed in a different sphere, we should have excelled in the fulfilment of its duties, and have won happiness from its pleasures. Alas! how many precious hours are wasted in useless speculations as to what we might have been, had such and such circumstances favored our views. Women, living in the country, and occupied from month to month, and from year to year, in a monotonous round of occupations, varying only with the seasons, are apt thus to look with envious feelings upon the supposed advantages of their sisters in the city, whilst these in their turn are languishing for the quiet seclusion of rural life. An old proverb says: "He who is always desiring his neighbor's vineyard, is as surely neglecting his own." A few practical hints will not be contemned by those who wisely wish to make the best of that condition of life in which they find themselves placed; and it will be generally conceded that a true-hearted woman realizes her own highest mission in the successful effort to minister to the welfare and happiness of those whom she loves, and those who are in any degree dependent on her ministrations. The manner in which this may best be done, will naturally vary in detail with the varying shades of circumstances and the dispositions of those with whom she has to do. A woman's quick tact, if directed by the desire to please and to do well, will, however, be a sufficient guide in these minor details.

The happiness of a family depends much on its domestic comfort, and of course this must depend in great measure on its mistress. Let every woman placed at the head of a household—be it large or small—rich or poor—endeavor, as far as possible, to maintain regularity and order, have meals served at regular hours, and all the necessary work of the house done at appointed times; if you have servants whose habits are orderly, it may be as well to allow them to arrange their own work as to time; if not, insist on their following your rules, or confusion is sure to ensue. Much time is saved by this habit of punctuality, and a good deal of leisure often obtained, which would otherwise have been wasted in pondering what to do next. A good housekeeper will never neglect cleanliness in all its branches. Health, as well as comfort, are affected by it. Whether it be the sleeping room, nursery, parlor, kitchen or pantry, the cleanliness and free ventilation, at proper times, of each, is essential to comfort, whilst to good cooking, it is indispensable that all the utensils used should be kept constantly clean and pure. In the sick room, likewise, the chances of the patient are in no small degree affected by the purity or otherwise of the atmosphere he breathes. Attention to neatness in the arrangements of the house is another requisite, which will not need to be urged where good taste prevails; for, without neatness, the richest furniture and the most costly appointments will fail to produce comfort, whilst with this the humblest cottage will tempt the weary to rest.

To those mistresses who have not much help, the household concerns will generally afford pretty constant employment; and we would now turn from them to the daughters and younger women of the family, and suggest that a little help cheerfully and heartily given to those upon whom its heavier cares devolve, will be as profitable to themselves as it will be helpful and acceptable to those whose heads and hands are so full of cares.

Let every woman remember that "a contented mind is a continual feast," and so cultivate that spirit of cheerfulness which, above all other things, will cause her presence to shed light and gladness on those around her.

HARMONIZING COLORS.—Mr. LOUDON states that he had observed that flower gardens looked best when the flowers were so arranged as to have a compound color next the simple one which was contained in it. Thus, as there only three simple colors—blue, red, and yellow—he advises that purple flowers, which are composed of blue and red, should have yellow next them; that orange flowers, which are composed of red and yellow, should be contrasted with blue; and that green flowers, which are composed of blue and yellow, should be relieved by red.

THE GENESEE FARMER FOR 1861.—The commencement of a new volume is always a busy time with us, and the present number has been prepared with great haste. It is not a fair sample of what we intend to make the *Genesee Farmer* for 1861. Still, we think it will give satisfaction to our numerous friends and readers. We are in the daily receipt of the most flattering commendations, accompanied with *substantial* evidence that our efforts to furnish a good and cheap agricultural paper are well seconded by intelligent farmers and fruit-growers in all parts of the country. Its circulation has been steadily increasing for several years. It has now *four times* as many subscribers as when it came into the possession of its present publisher. For this we are mainly indebted to those true friends of improvement who have acted as agents for the paper, and to our numerous correspondents. We would like to take each one of them by the hand, and thank them individually for their kindness. This we can not do, and we must be satisfied by expressing, in this general way, our sense of our obligation to them, and to say that it will be our aim to reciprocate their favors in every possible way, as well as to furnish a paper that they need not feel ashamed at having recommended to their friends and neighbors.

THERE ARE MANY YOUNG MEN who could not do better than to act as agents for the *Genesee Farmer*. A few days spent in soliciting subscriptions among the neighbors would secure one of our largest Cash Premiums. All that is required is to show them a copy of the paper, and tell them its marvellously low price. Our list of cash prizes will be found on the last page.

JANUARY PREMIUMS.—The time for competing for our Cash Prizes expires on the fifteenth of January. It will soon be here. Read over the list on the last page, and then see what you can do for us. Very few compete for the Cash Prizes, and a little effort *now* will enable any one to secure one of the highest

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY FOR 1861.—This beautiful little work is now ready, and will be sent to any address on the receipt of 25 cents in postage stamps. It should not be forgotten that we send the *Rural Annual* and *Genesee Farmer* in clubs of eight at 50 cents the two!

ALL PRIZES AND NO BLANKS.—By reference to our List of Premiums on the last page, it will be seen that we have "specific" as well as *Cash* Prizes. We desire to pay everyone who is willing to work for us.

MONEY FOR SUBSCRIPTIONS may be sent at our risk. It is not necessary to "register" the letters. If the papers do not come to hand in a reasonable time, write again, stating the day on which the letter was mailed, that we may inquire into the matter immediately, if the letter has been lost. *Three*-cent stamps can be sent for small sums.

The Markets.

In the August number of the *Genesee Farmer*, we remarked, "it is generally the safest way to sell when fair rates can be obtained, rather than to wait for famine prices." The present depression in the grain market is an illustration of the general truth of the remark. Wheat has changed hands recently in this city at 30 cents per bushel less than was paid for it. Till the recent depression, wheat has been 25 per cent. higher than a year ago.

The causes of the present panic are too numerous and too subtle for discussion in our pages. Political agitations have greatly enhanced the difficulty—but they are not the *sole cause* of the present stagnation in the grain market. The following extracts from the last London *Mark Lane Express*, will throw some new light on this complicated subject:

We appear to be approaching another of those monetary crises, which from time to time have of late years occurred, and thrown the trade and commerce of the country into the convulsions of a panic, while altering for the moment the relative value of every commodity of native or foreign production. The cause of the present dilemma of the Bank of England is as follows: It appears that the French Government has been "out running the constable," or, in plain parlance, spending its money too freely of late, so that its financial system has become greatly embarrassed, the specie having disappeared from the Bank of France. It has, therefore, become imperative to procure supplies of gold anywhere and at any rate; and in order to effect this, recourse has been had to an expedient practised so successfully in 1855. It is this: Agents are employed to purchase on the continent all the bills of exchange at short date upon London that they can procure. Other agents are also employed in London to purchase similar bills at long dates; and both, as procured, are discounted at the Bank of England, or in Lombard street, and the proceeds, *in bullion*, instantly transmitted to the Bank of France. We have said that the operation proved successful, but it was at a heavy cost: for in 1855 the Bank of France paid a premium on gold of £4 10s. 0 in a few months, being at the rate of 1½ per cent. on £27,860,000 sterling.

This operation we understand, is now in course of being repeated by the French Government; and the consequence is, that the Bank of England finds its specie and bullion so rapidly disappearing, as to render it absolutely necessary to put a stop to it, if *possible*, by raising the rate of discount to six per cent.*

The corn market is one of the first to feel the effect of this measure. We are told that orders for corn from the United States were made up on Thursday (Nov. 15); but on learning the proceedings of the Bank, the letters were re-opened and a large reduction made in the offers, both in regard to price and quantity. The stagnation, too, on the market of Friday was wholly owing to the same cause. There is increasing reason for believing that a serious deficiency exists in the produce of wheat of the late harvest, arising not only from the smallness of the acreage yield, and the great quantity destroyed by the weather, or from not having properly ripened, but still more from the enormous deficiency in the produce of flour from a given quantity of wheat. Thus, on Monday last, we were told by a miller, that finding his mixed wheats yielded no profit, and being doubtful whether it arose from the inferiority of his English or the high price of his foreign wheat, he put it to the test by grinding 20 quarters of a *general run* of home-grown corn by itself. To his dismay and astonishment, instead of obtaining, as he ought to have done from good wheat, 23 sacks of flour from the 20 quarters, he had only 23 sacks! Other cases of a similar kind have been stated to us, tending to prove that in the produce of *human food* there will be a much greater deficiency than the public generally are at all aware of, and which will show itself more and more as the season advances.

It therefore becomes daily more evident that unless a large importation takes place, we shall have much higher prices as the new year advances. The demand for foreign corn this season will be more general and to a greater extent than was ever known. And, as the ports of the Baltic will, in all probability, be closed by the frost in a very few weeks, the stoppage of the supply from America, which we greatly fear will be the result of the letters sent out this week, will inflict serious injury upon the country at large, as well as those of our merchants interested in the American commerce.

American red wheat in London is quoted at $1.80@1.95; white $1.80@1.98—the minimum quotations being the same as at our last month's report, with a reduction of from three to seven cents on the maximum quotations.

Freights from New York to Liverpool are, wheat in bulk 25 to 26 cents per bushel; in bags 27 to 28 cents.

In New York, Dec. 11, the grain market was more steady, but demand quite limited. Winter wheat sold at $1.12@1.15; Milwaukee Club $1.08@1.05. Rye 63c. Barley 75@82c. Corn 58@59. Oats 35@37½. In this city little is doing. We quote red wheat $1.00; white $1.30. Barley 50c. White beans 70@$1.12. Dressed hogs $6@6.50.

*Just as we go to press, the telegraph announces the arrival of another steamer from England, with the news that the Bank of England had reduced the rate of discount to 5 per cent. Specie was also being sent to this country, and we cannot think that the present "dead-lock" on grain will continue much longer.

FRUITS RECEIVED.—We have received from WM. CASNER, of Warrensville, Pa., the following varieties of apples:

Paradise.—A very large, green apple, with a brown cheek; larger than *Twenty Ounce;* handsome; of similar quality to *Twenty Ounce*—no better.

Major.—A large apple, of a dull red color; quality not first-rate, but very good; said to be a good keeper.

Winter Rambo.—This apple we consider hardly of second-rate quality, and unworthy of cultivation, when there are so many better sorts.

Smith's Cider.—This apple is largely grown in some parts of Pennsylvania and the West, and it probably has qualities which render it valuable; but from the specimens received—which are fine in appearance—we should judge them to be of scarcely second-rate quality.

LARGE CROP OF POTATOES.—Twenty-five made a bushel. I planted, the 13th of May last, one-quarter of an acre of potatoes. Each rod contained twenty-five hills, and every six hills made one bushel. If any one can beat that, I should like to hear from them through your valuable paper.—JAS. MCCOLGAN, *Summit Co., Ohio, Dec.*, 1860.

NOTES ON THE WEATHER FROM OCTOBER 15TH TO DECEMBER 1ST, 1860.—The month of September and the first half of October were cool, being some few degrees below the average. But the last half of October was warm; its average was 52.1°, or 7.1° above the mean for 23 years. It is rare that the last half of October is as warm as the first half, but this year it was 3° warmer than the first half. The month was considered a very miserable display, from its clouds, and rains, and winds, in this section, while fine weather prevailed in New England, S. E. New York, and New Jersey.

The average heat of October for 23 years is 47.6°, and for this October is 50.5°, or about 3° above that average, and about 7° above the average for October, 1859. Indeed, the cold, and snow, and rain of that October made the month much more unpleasant than this year.

The rain in October measured 4.714 inches. A great rain occurred on the 20th, giving 2.39 inches. This storm is another instance of the regular progress of a north-east storm on the Atlantic coast of the United States, from the south toward the north. In the South Atlantic States, the storm began on the 19th, and moving northward and westward, reached Baltimore, and was a heavy North-easter toward evening and on; reached New York later, and became a less windy storm through the night and from the north and east, and removed onward into New England. At Rochester, N.Y., the wind was all day and evening from the west. But on the morning of the 20th, the clouds were thick and flying swift from north-east. At 12 (noon,) the rain began from north-east and continued, with moderate wind and heavy showers, till 2 or 3 o'clock A. M. on the 21st. The barometer was rather high on the morning of the 19th, fell but little on the 20th, and continued to fall somewhat even after the storm closed on the 21st. This uncommon movement of the barometer may have been caused by the opposing currents of winds from the west on the 19th, and from the north-east on the 20th, by which the atmosphere was sustained at nearly the same pressure.

This storm accorded with the remark of FRANKLIN, a century ago, that a north-east storm begins three hours sooner at Philadelphia than at Boston; not that it is precisely three hours sooner, for the length of time depends on the violence of the storm, and this on the relative temperature of the oceanic and land currents of atmosphosphere.

Here, too, the storm began a day later than on the south-east coast, and was extended west of the Alleganies, and northward into Canada, over a large extent of country. Often these Atlantic storms do not extend west of the Allegany Mountains.

The hottest noon, 74°, and hottest day, 66.7°, was on the last day of the month, preceded by two quite warm days. Indeed, the 30th was 72° at noon, and 64,3° average of the day.

The rain in September and October was 8.236 inches; in July and August, 8.00 inches; and in the first five months of the year, only 7.24 inches.

October 17th, an earthquake at 6 A. M., occurred over most of New England and northward, and westward into this State, and noticed here and distinctly at Toronto, C. W. No assignable cause has appeared.

October 26th, another earthquake at 6¼ P. M., distinctly felt at Rochester, and over several counties.

October 26th, thunder shower at 3 A. M., followed by cold.

October 27th, coldest morning in the month, 32°, and a great frost.

October 29th, great rain all night to next morning till 11 A. M.; weather quite warm followed; if smoke had appeared, it would be Indian summer.

November came in warm; indeed, the first two days were very warm. The first gave us slight showers and rainbows. It would be Indian summer if we had smoke with the warmth.

Nov. 3, great north-east rain storm in Western Maryland and Virginia, on the east Allegany ridges; ceased on the 4th by noon; streams high.

Nov. 4th, severe storm at Eastern Pennsylvania, on the Schuykill, and on to New York, where the wind was south-east and heavy; very high south wind at New Haven and along the Sound in Connecticut, damaging buildings there, and also in Jersey City, where the wind was highest about 5 P. M., and lasted late at night. Also, a severe gale and storm on Lake Erie; high water at Buffalo; gale on Lake Ontario the same afternoon and on next day.

On the 10th and 11th, was a great rain from the north-east—1.89 inches, with flood in the Genesee.

This half-month has been warm—being 3.8° above the average for 23 years, which was 41.1°, making this mean 44.9°. This is higher than in November last year. The coldest day was the 8th, 36.3°; and the coldest morning the 14th, 32°, attended by a great frost.

The first snow of autumn here was on the 7th, with rain, but it melted immediately; while the first snow last autumn was on the 20th of October—three weeks earlier

The month so far has not been pleasant, being eight days on which was rain, and very dense clouds. A fine cloud of aurora boreal is shone out on the 4th, at 8¼ P. M., at an elevation of 18 to 20° on the meridian. The quantity of rain continues to be large, and has been for three or four months past.

In the last half of November, rains, snow-squalls, winds, and deep clouds, have prevailed, and only two or three fair and fine days. Indeed, taking the weather thrice

daily, or forty-five observations in the last 15 days, only four were *clear*.

The average heat was 34.4°—very near the mean for 23 years. For this period last year, the temperature was 4.7° higher.

The average of the month was 39.6°, or near 2° above the mean for 23 years. The coldest day was the 25th, 17.7°, while the morning was the lowest, or 14°—which was 4° higher than in New Jersey at the same time. A very cold period for November occurred from early Saturday to Monday noon, the 26th. The wind brought rain from the south on Friday, and heavy showers late in evening, and more from 2 to 3 A. M. of Saturday; and at 4 A. M. the wind changed to west with snow and a gale. This began about 2 A. M. at Buffalo, and a tornado with snow poured upon the place from the west; still earlier at Cleveland, and on the previous day on the Mississippi and on Lake Superior. The storm moved rapidly eastward, and began at New York with snow at sunrise on Saturday, or three or four hours later than here. At Philadelphia, the gale and snow from the west was later still. The storm reached New Orleans on the south, extending over most of the States east of the Mississippi River. It made many shipwrecks on Lakes Huron, Erie and Ontario, and ninety-two lives were lost. The heat fell 30° here, and 50° in Richmond, Va., and ice was formed there.

In this storm, waters of Lake Erie were blown down the Niagara so as to raise the water on the Falls two feet; at the staircase ferry fifteen feet, and eight feet at the Suspension Bridge, where the current is very rapid.

This was another of the great storms, which begin with rain from south or south-east, or more easterly, till the upper west current comes with its cold air to the earth in a tornado, sweeping across the country to the Atlantic.

The canal was frozen on the 27th; but the ice chiefly melted in three days, and the navigation was free on the 30th to Albany.

The water fallen in the month was 3.00 inches—abundant. In the autumn, or three months, it was 11,239. At 8 P. M., on the 28th, a cloud passed the moon, and surrounded the moon with a brilliant circle of the several simple colors in due order; a very beautiful phenomenon, not very often seen. It is not a rainbow, but concentric circles of rainbow splendor and variety.

Inquiries and Answers.

Dwarf Apples.—Please tell us about dwarfing the apple tree—why does it remain a dwarf? how is it done? Can you dwarf on the Crab apple? if so, I want you to tell us how, as there is a great abundance of the Crab here. If the Crab will not answer, what have we here that we can use for this purpose? We will feel very grateful if you will tell us in your paper about these things.—J. B. W., *Sand Spring, Iowa.*

The apple is dwarfed by grafting or budding on two distinct species of dwarf apples that are procured from France—the *Paradise* and the *Doucain*.

The *Doucain* is a small or medium-sized tree, and is used for trees that are to be trained in the pyramidal form, or as half-standards.

The *Paradise* is only a shrub, growing from three to five feet high, and is the stock now in most general use in the nurseries for dwarfing the apple.

We think that the stocks of the wild Crab apple (*Pyrus coronaria*), which grow so plentifully in your vicinity, may be profitably used for working good varieties on, but they would grow larger than the *Paradise* stock.

The young seedlings, one or two years old, can be collected and planted out in the garden, or where they can receive attention and good cultivation, and budded in July or August, or grafted at the surface of the ground early in the ensuing spring. We would recommend J. B. W. to experiment, and in due time report progress.

Transplanting Evergreens—The Common Thorn for Hedges.—1st. What is the proper time for transplanting evergreens? and what kinds would you recommend for a country farm-house?

2d. Would the common Thorn do for a hedge? and when may the haws be sown?—A. F., *Warwick, C. W.*

1st. A good time to transplant evergreens is when the buds are swelling in the spring, before they have commenced growth; they may also be successfully transplanted after they have made their first growth, and are in a dormant state—which, in the latitude of our correspondent, is usually from the latter part of June to the middle of July.

We would recommend, for general planting, American Arbor Vitæ (*Thuya occidentalis*), Siberian Arbor Vitæ (*T. Siberica*), Red Cedar (*Juniperus Virginiana*), Austrian Pine, White Pine (*Pinus strobus*), Scotch Pine, Balsam Fir, Norway Spruce, Black Spruce (*Albies nigra*), Common Hemlock (*A. Canadensis*).

2d. We have no doubt but excellent hedges may be formed by the use of our common varieties of the Thorn (*Cratægus*).

When the haws are gathered, they should be thrown into a pile and allowed to rot, when the seeds may be washed out and planted in the fall, or kept in sand over winter and sowed early in the spring.

Cow Choked with a Turnip.—When a cow is choked with a turnip in the throat, what should be done?—J. B. Whitaker.

Put a piece of wood in the cow's mouth, say two inches in diameter, and fasten it by a cord at both ends, tied back of the horns. This will keep the mouth open, and allow the gas to pass off. In nine cases out of ten, this will be all that is necessary. Drenching with a little goose-oil will facilitate the removal of the turnip.

It is sometimes necessary to use a probang to remove the turnip. In this case, use only a slight pressure, and if it does not move easily, wait; be not impatient, as the longer the turnip remains the softer it becomes. In some cases, the turnip can be drawn out by the hand, or with a pair of pincers.

In extreme cases, when the rumen becomes so distended that there is danger of suffocation, it is necessary to make an incision in the flank, on the left side, between the last rib and the hip-bone. This can be done with a pen-knife. A quill should be put in the hole to facilitate the escape of the gas. The wound should afterward be closed with a stitch and a little adhesive plaster.

When an animal has once choked, it is very liable to choke again immediately, and the turnips should be kept away for a day or two.

Can any of your subscribers answer the following questions? 1st. Does the body of a tree increase in length below the limbs? 2d. How are tomatoes propagated by cuttings? 3d. What is the best method of propagating the common locust tree?—C. H. Peck, *Montcalm Co., Mich.*

DELAWARE GRAPE VINES FROM LAYERS.—I see it stated that the *Delaware* grape is difficult to propagate from cuttings in the open air. I wish to inquire if there is any difficulty in propagating it by *layers*, in the usual way?—H., *Minneapolis, Minn.*

We understand, from various sources, that the *Delaware* can be grown by layering, in the usual way; but perhaps does not strike root quite as freely as many other varieties.

CRANBERRY CULTURE.—Will any one inform us, through the *Farmer*, whether it would be safe to try cranberry cul in Pennsylvania?—D. S. E., *Lebanon Co., Pa.*

The cranberry has proved to be a very profitable crop when planted in situations adapted to its peculiar habits. The fruit always commands a good price, and the demand is unlimited. They will bear shipping almost any distance, and can be kept in good condition a long time.

APPLES AND GRAPES FROM SEED.—(J. H. L., *Meachville, Pa.*) Plant your apple or grape seed one inch deep in the fall; keep the grape seedlings clean the first season; cover slightly in the fall; the following spring, set out where you wish them to bear. Your chances, out of good seed, is one out of ten to get as good a grape as the original.—S. M.

To raise trees or vines, for fruit-bearing, from seed collected from ordinary sources, is a useless undertaking, even if, as S. M. says, one seedling as good as the original may be obtained from ten—one in ten thousand would be nearer the mark; for to plant 90 per cent. of poor fruit for the sake of 10 per cent. of such as is no better than the original, is progressing backward at a rapid rate. If new seedlings are brought into cultivation, they should have points of superior merit to those already in existence, to entitle them to any consideration. The most satisfactory way for J. H. L. to obtain a good orchard and vineyard, is to plant the best varieties of fruit that can be procured from the nurseries.—EDS.

MANURE FOR WHEAT.—I have lately purchased an old and poorly-cultivated farm, on which I have this fall sown fifteen acres of wheat. There being no manure in the place, I was compelled to put my wheat in without manure. I know it is useless for me to expect much of a crop without in some way enriching the soil. I can get plenty of bones. Will it pay to manufacture them into superphosphate of lime, to be applied during the winter or spring, as a top-dressing? Would it pay to mix plaster and guano with the superphosphate of lime? If it would pay to use the above articles as a top-dressing, when would be the proper time to apply it? how much to an acre, and in what proportions? By answering the above through your valuable journal, you will much oblige a subscriber and constant reader.—YOUNG FARMER, *Ripley Co., Ind., Nov.* 19, 1860.

We do not think it will pay to convert bones into superphosphate for wheat. In order to do so, it is necessary to grind the bones quite fine; and the question really is, whether you had better sow the fine bone dust on the wheat or convert it into superphosphate. We believe it is better to sow the bone dust. Its conversion into superphosphate simply renders the phosphate of the bones soluble, and therefore more readily assimilable by the plants. On the majority of soils, phosphates are not, *relatively to ammonia*, deficient; and we believe the bone dust would furnish as much phosphate as would be required by the increased growth of the wheat caused by the ammonia of the bones.

There is no advantage gained by the *mere act of mixing* guano and plaster with the superphosphate—that is to say, they would do as much good if sown separately.

LIVE AND DEAD WEIGHT OF HOGS.—The hog men are upon us, and we are at a great loss to know how to sell. They offer us 4¼ to 4½ cents per lb., live weight. Now, at this price, what should the pork be worth?—J. B. WHITAKER, *Delaware Co., Iowa, Nov.* 15, 1860.

The proportion of pork to live weight varies somewhat according to age, breed and degree of fatness of the hogs. In the *Genesee Farmer* for February, last year, we alluded to four hogs, whose gross weight was 3,100 lbs., and which dressed 2,643 lbs. In other words, 100 lbs of live weight gave 85 lbs of pork. These were very large, fat hogs, and the proportion was unusually high. The usual estimate for good hogs is 80 lbs. of pork to 100 lbs. live weight. This would make:

$2.00	per 100 lbs.	live	weight	equal	$2.50 net.
2.40	"	"	"		3.00 "
2.50	"	"	"		3.12½ "
2.75	"	"	"		3.43¾ "
3.00	"	"	"		3.75 "
3.25	"	"	"		4.06¼ "
3.50	"	"	"		4.37½ "
3.75	"	"	"		4.68¾ "
4.00	"	"	"		5.00 "
4.25	"	"	"		5.31¼ "
4.50	"	"	"		5.62½ "
4.75	"	"	"		5.93¾ "
5.00	"	"	"		6.25 "
5.25	"	"	"		6.56¼ "
5.50	"	"	"		6.87½ "
5.75	"	"	"		7.18¾ "
6.00	"	"	"		7.50 "
6.50	"	"	"		8.12½ "
6.75	"	"	"		8.43¾ "
7.00	"	"	"		8.75 "
7.25	"	"	"		9.06¼ "
7.50	"	"	"		9.37½ "
7.75	"	"	"		9.68¾ "
8.00	"	"	"		10.00 "

YELLOWS IN THE PEACH.—(R. S.) We have no theory on this subject. Were we obliged to express an "*opinion*" as to the cause of this disease, we should say it is *probably* caused by the cold weather of winter injuring the cells of the immature twigs of the trees and inducing a diseased sap; and also in part, perhaps, by the coldness of the soil in the spring in comparison to the atmosphere. We believe the disease is not known in Europe.

BLIND STAGGERS.—The horses in this section are dying with the blind staggers by hundreds. Can you tell me the cause of this disease, and how to cure it?—G. C. RANDOLPH, *Cleveland, Tenn.*

This disease is frequently caused by improper feeding, especially in allowing the horse to eat immoderately after a long fast. We once had a horse attacked by this disease. We bled him freely, and he recovered in a short time. An English veterinary surgeon recommends for this disease: "Oily purgatives, assisted by draughts of warm water, and injections containing a purgative. Stomachics may also be given, such as carbonate of ammonia, two drachms; gentian, one drachm; with spirits of nitrous ether, one ounce twice a day. The disease, however, is very obstinate and fatal, the stomach being frequently distended beyond its powers of contraction."

CATTLE.—(T. M.) In England the term cattle is applied to horses and oxen indifferently. In this country it is seldom if ever applied to horses. In Great Britain the term *black cattle* is applied to bulls, oxen, cows, and calves; and sheeps and goats are sometimes designated *small cattle*.

TAINTED PORK BARRELS.—(R. T.) It is said that filling and covering them with earth will remove the taint. If our readers know of a better plan, we should be glad to hear from them.

Books, Pamphlets, &c., Received.

CASSELL'S ILLUSTRATED FAMILY BIBLE. Published in Monthly parts on the 1st and 15th of each month. No. 7. 15 cents each; 24 numbers, $3. By. CASSELL, PETER & Co., 37 Park Row, New York.

NORTH BRITISH REVIEW: Vol. 28, Nov. N. York: LEONARD, SCOTT & Co. Price $3.

BLACKWOOD'S MAGAZINE. American Edition. New York: LEONARD, SCOTT & Co. Price $3

The following books are for sale by STEELE, AVERY, & Co., of this city.

TRAVELS IN THE REGIONS OF THE UPPER & LOWER AMOOR, and the Russian Acquisitions on the Confines of India and China. By Thos. WITLAM ATKINSON, F. G. S., F. R. G. S., author of "Oriental and Western Siberia." With Map and numerous Illustrations. N. York: HARPER & BROS. Price $2.50.

EDUCATION: Intellectual, Moral, and Physical. By HERBERT SPENCER, author of "Social Statics," "The Principles of Psychology," etc. etc. New York: D. APPLETON & Co. Price $1.

HOPES AND FEARS; or Scenes from the Life of a Spinster. By the author of "The Heir of Redclyffe." "Heartsease," etc. In two volumes. New York: D. APPLETON & Co. Price $1.50.

CONSIDERATIONS ON SOME OF THE ELEMENTS AND CONDITIONS OF SOCIAL WELFARE & HUMAN PROGRESS: Being Academic and Occasional Discourses and other pieces. By C. S. HENRY, D. D. New York: D. APPLETON & Co. Price $1.

TRUE STORIES OF THE DAYS OF WASHINGTON. New York: PHINNEY, BLAKEMAN & MASON. Price 75 cents.

BOB AND WALTER: with the Story of Breakneck Lodge. N. York: PHINNEY, BLAKEMAN & MASON. Price 50 cents.

WHERE THERE'S A WILL THERE'S A WAY. By ALICE B. HAVEN (Cousin Alice). New York: D. APPLETON & Co. Price 75 cents.

The following are for sale by D. M. DEWEY, of this city:

RAILWAY PROPERTY: A Treatise on the Construction and Management of Railways. By JOHN B. JERVIS, Civil Engineer. New York: PHINNEY, BLAKEMAN & MASON.

All the above books can be obtained from the respective publishers, sent, prepaid by mail, for the price annexed.

ADVERTISEMENTS.

A FEW short advertisements of interest to farmers—and only such—will be inserted in the *Genesee Farmer* for twenty-five cents a line, or $2.50 per square, each insertion, payable in advance. To secure insertion, they should be sent in by the 15th of the previous month. The *Farmer* has large lists of subscribers in *every State and Territory, and in all the British Provinces.* (It has nearly 5000 subscribers in Canada West alone) There is no better or cheaper medium for advertising everything of general interest to rural residents in all parts of the United States and Canada.

We will also insert a few "Special Notices," if appropriate to our columns, at fifty cents a line.

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D. C LINSLEY, Editor and Proprietor.
OTIS F. R. WAITE, Associate Editor.

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THE following works on Agriculture, Horticulture, &c., may be obtained at the Office of the GENESEE FARMER:

American Farmer's Encyclopedia	$4 00
Allen's Am. Farm Book	1 00
Allen's Diseases of Domestic Animals	75
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CONTENTS OF THIS NUMBER.

On the management of barn-yard Manure,..... 9
The Mechanical condition of the Soil favorable for the growth of Seed,..... 10
What Spring Crop shall we Seed with?..... 12
A Large Yield of Potatoes,..... 12
Extracts from the Transactions of the N. Y. State Ag. Society for 1859,..... 12
Barley Fly. Stock per Acre,..... 12
Wheat on Clover Sod at one Plowing. Timothy vs. Clover, 12
Value of the Clover plant. The Wheat Midge,..... 13
Rats. Experiments on Indian Corn. Receipt for curing meat, 13
Plowing in Grass Seed. Dry Food for Hogs. Seeds in weeds, 14
Cultivation of Ruta Bagas in Canada,..... 14
American Hops in England. Hard Crust formed in Plowing, 14
Rural China. Small Chests for Fattening Animals,..... 15
Doves and Pigeons. Feeding Hogs,..... 16
Science in Agriculture. Putridity of Wells,..... 17
Muscular System of the Horse,..... 18
Skeleton of a Horse,..... 19
Form of the Horse,..... 20
Shall we use Muck? Cutting Straw Stalks, &c.,..... 21
Gravel Houses. Three Vermont Farmers,..... 22
The Uses of Drought. Hints for January. Turnips in Butter, 22
J. C. Loudon,..... 23
Gothic Churches for the Country,..... 25

HORTICULTURAL DEPARTMENT.

The Currant,..... 26
To Destroy Insects on Plants,..... 27
Winter Pears. Cracking of Pear in England. Large Fruit, 28
American Shade Trees,..... 29
Setting a Garden..... 30
The Nurseries of Rochester. Orchards on Steep Hill-sides,.. 31
Size of European Pears. Vaccinating the Grape Vine,..... 31

LADIES' DEPARTMENT.

Silent Conflicts of Life. Harmonizing Colors..... 32

EDITOR'S TABLE.

The Markets..... 33
Items, Notices, &c..... 33, 34
Notes on the Weather..... 34
Inquiries and Answers,..... 35, 36
Books, Pamphlets, &c., Received..... 37

ILLUSTRATIONS.

American Wild Pigeon,..... 16
Points of the Horse,..... 18
Skeleton of the Horse..... 19
Portrait of J. C. Loudon,..... 24
Two Designs for Country Churches,..... 25
Currants—La Versaillaise. Fertile d'Algers. Native de Berlin, 27

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